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BETTER FRUIT

VOLUME X

AUGUST, 1915

NUMBER 2



Courtesy of Southern Pacific Railroad.

Fruit growers are finding that diversity is a big asset in fruit growing. Many orchardists are engaging in dairying, hog raising, truck gardening. Many are finding sheep raising remunerative. The above illustration shows a flock of sheep in the Willamette Valley, one of the fruit growing districts of the Northwest.

BETTER FRUIT PUBLISHING COMPANY, PUBLISHERS, HOOD RIVER, OREGON

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BETTER FRUIT

AN ILLUSTRATED MAGAZINE PUBLISHED MONTHLY IN THE INTEREST OF MODERN, PROGRESSIVE FRUIT GROWING AND MARKETING

New Plums and Prunes for the Pacific Northwest

By C. I. Lewis, Chief Division of Horticulture, Oregon Agricultural College, Corvallis, Oregon.

THE material facts in this article were largely obtained through correspondence with successful plum growers of California and of the Pacific Northwest, and some of the principal buyers and handlers of green plums and prunes in the various markets. We all know how successfully plums and prunes are grown in the Pacific Northwest. There are relatively few pests to contend with, and this class of fruit is perhaps grown more easily than any other type of fruit we are producing.

At the present time Western Oregon and Western Washington are producing about thirty million pounds of dried prunes annually. Occasionally a few carloads of green prunes are shipped during those seasons when Idaho has a light crop and there is a general shortage of fresh fruit in Eastern markets. The Champion is being planted somewhat, especially in Western Oregon, and being disposed of largely in such markets as Seattle and Portland, while considerable shipment is being sent to Alaska. In Eastern Washington, in such sections as Yakima and Walla Walla Valleys, and in Oregon, in such regions as The Dalles, Freewater, Milton and Cove, and in Idaho, in such valleys as Payette and Boise, considerable quantity of green prunes and plums are being shipped largely to Eastern markets. In a normal season, Idaho alone will ship eighteen hundred carloads of prunes, chiefly Italian and some Tragedy and Hungarian. Walla Walla reports two hundred and twenty-five cars, but this tonnage will be increased to a thousand cars annually. There are at the present time in the Walla Walla Valley, not counting this year's planting, 31,955 Italian prune trees seven years old or younger. The variety produced in all of these sections is chiefly Italian, with Tragedy and Hungarian increasing. The price at the present time received for Hungarian and Tragedy is greater than that received for Italian, but this condition is probably only temporary, due to the relatively small amount of these prunes. With the increased yield and acreage there will be very little difference in the price between any of the first class shipping plums. In addition to the varieties already named, there are miscellaneous plantings of several plums and a sprinkling here and there of the Japanese varieties. In the vicinity of Portland there are large quantities of plums produced which are handled in a very poor way, and a considerable percentage of the crop is of inferior grade.

The greatest weakness in green prune and plum production in the Northwest at the present time is the fact that the Italian is being planted almost exclusively, and while there will always be splendid markets for this plum, as the Italian probably holds the first place in popularity and in carrying qualities, nevertheless, there seems to be danger that we may specialize too much on this one variety and that we are neglecting other varieties which may succeed fully as well. We know in the

has a wide range of ripening. Such a point as Cove, in Eastern Oregon, is nearly a month later than some of the lower inland valleys. This difference in ripening, however, is a distinct advantage to both sections and gives much less competition.

There is a possibility that some of the plums which grow to such a large size and have such remarkable color in California, will not do equally as well in the Pacific Northwest. Time alone will demonstrate this point. The North Pacific grower, in attempting to handle some of these newer varieties, will have to prune heavily and thin vigorously if he is to get the perfection in size and color. This is especially true of all of the heavy bearers and rank growers. In California there is a great interest being shown in the production of shipping plums. While attending a convention of fruit growers in California last year, the writer was impressed by the fact that no subject treated aroused more interest than the subject of new varieties of plums and prunes for shipping. California growers are vying with each other in producing new varieties of superior excellence. The shipping period in California comes very early. For 1914 the shipping period from the Vacaville district, which is one of the earliest in the state, are as follows: First shipment of Beauty, May 23; Tragedy, May 24; Formosa, May 27; Burbank, May 29; Climax, May 29; Santa Rosa, May 31; California Red, June 5; Gaviota, June 12; California Blue, June 12; Wickson, June 23; Diamond, June 23; Grand Duke, June 25; Hungarian, July 7; Giant, July 13. The season for each variety of plums in this district is about three weeks. One of the best prune and plum authorities of California has kindly prepared for me a table giving the quality, shipping and bearing characteristics of the principal shipping plums and prunes produced in that state, and while these scores would not hold true for all districts, they are, nevertheless, very interesting, showing the keen attention Californians are giving to this business:

Features of this Issue

NEW PLUMS AND PRUNES FOR THE
PACIFIC NORTHWEST

THE APPLE AS A FARM PRODUCT
—HISTORY AND PRESENT
STATUS

SPLENDID VARIETY OF FRAN-
QUETTE WALNUTS

SOIL MANAGEMENT AND
IRRIGATION

MOVING THE FRUIT GROWER
INTO TOWN

USE OF DYNAMITE ON THE
FARM

Northwest that we must have not only a more diversified horticulture, but in the case of plums and prunes, a more diversified production.

Our plums and prunes are shipping east in very good condition and arrive in European markets. Most of the large Eastern markets will handle this class of fruit as long as it arrives in good condition. In 1912 the earliest plums from the Yakima Valley were shipped about July 26. In 1914 the ripening season came about fifteen days earlier than the season of 1912. In 1913, at Eugene, Oregon, the Santa Rosa ripened August 10, Climax August 13, Burbank August 20, and Wickson September 7. The season of 1914 was about ten days earlier than this. This section of the Willamette Valley reports Santa Rosa and Hungarian as being very promising. The Santa Rosa has been picked, held for two weeks and shipped across the continent in small packages in good condition. While the California season is much earlier than the ripening time in the Pacific Northwest, we will come into competition with them, but their plums are largely out of the way before the Northwestern plums are ready for shipping. The Pacific Northwest

	Quality	Shipping	Bearing
Beauty	100	75 (?)	100
Burbank	50	100	100
Grand Duke	100	100	90
Diamond	100	100	100
California Red	75	75	25
California Blue	100	100	...
Tragedy	100	100	50
Wickson	75	100	50
Giant	75	100	100
Gaviota	75	100	100
Formosa	100	100	75
Hungarian	100	100	50
Climax	90	100	100
Santa Rosa	75	100	100



Courtesy of Southern Pacific Railway

Dairy Cattle, Coquille, Oregon

The California producers are considerably ahead of the Northwestern producers in handling this type of fruit. They have made a closer study of variety characteristics. They give much more attention to thinning, pruning and picking, and their packing is much superior to our own. This is being strongly brought out by reports of some of the marketing districts that receive fruits from both sections. However, these are matters which the intelligent growers of the Northwest can easily master.

It will be interesting to note some of the variety characteristics of the leading shipping plums and prunes produced in California:

Beauty—A new plum which has been fruited but little. However, it is a very promising plum. It will be rather hard to ship unless handled carefully. The tree is a very strong grower, having a willowy type of growth. Probably will be a heavy bearer, even when planted alone, and is thought to be a very good pollinizer.

Burbank—A bright red plum. Very strong grower, requiring severe pruning. Has a tendency to over-bear. There is a feeling in some sections that the Burbank is losing ground.

Grand Duke—A large purple plum. Is a good bearer. Well received in many markets. Is firm, sweet and of pleasing flavor.

Diamond—A purple plum, a very heavy bearer, and universally well spoken of as good grower and bearer. It needs heavy pruning. This plum is distinctively tart, and on that account is very popular. Is one of the most promising for the Northwest to try, and should sell well wherever the Italian is a favorite.

California Red—A light red plum, considered a good shipper, but reported in some districts as being a shy bearer.

California Blue—A comparatively new plum. Shows indication of being

a good bearer, but needs further trials before definite recommendations can be given.

Tragedy—A blue plum. The only one of the European type which tends to be of medium size. Frequently it is a shy bearer. It is very popular, however, on the market.

Wickson—A sharply-pointed plum of dark red color. Makes a rapid upright growth and blooms profusely. Generally sets well, but drops fruit badly during season, often as a result giving a very light yield.

Giant—A large purplish red plum. A very heavy bearer and needs heavy pruning. Competes somewhat with Hungarian, but doesn't meet with quite as good reception on the whole as does the Hungarian.

Gaviota—A fine large plum. Its bearing qualities in some districts, however, is doubtful. Has a very thick skin, small pit, is quite shapely, a strong grower, and thought by some to dry satisfactorily. Some sections report its bearing very favorably.

Formosa—A large red plum. One of the very best early. Makes an upright growth and occasionally blossoms lightly but sets well. Needs heavy pruning. Is extremely promising for the Pacific Northwest.

Hungarian—A large red plum which needs very little comment in the Northwest. Is locally known as Pond's Seedling. Should not be confused with Hungarian Prune, which is a large blue fruit.

Climax—A dark red plum. One of the very best early, but not as good as Formosa in quality, and is apt to crack at blossom end. The tree makes a small wiry growth. Requires heavy pruning, as it sets and bears well.

Santa Rosa—A red plum which grows much like the Gaviota. The flesh is also a little tinged with red. A heavy bearer, needing severe pruning. One

of the most promising for the Pacific Northwest.

Champion—A dark purple plum, grown especially near Salem. Has a rather peculiar form, being compressed on the side. Is very firm, a good shipper and considerably earlier than Italian.

The following plums are either Japanese or Japanese hybrids, and are large, sweet plums, generally red in color: Beauty, Burbank, Wickson, Gaviota, Formosa, Climax, Santa Rosa. The so-called European varieties are considered superior in quality, larger in size, and most of the varieties are blue or purple, there being a few red, however. The following are varieties of the European type: Grand Duke, Italian, Hungarian, Tragedy, Giant, California Red, California Blue.

Our readers will be interested in knowing the market opinion of some of these varieties:

One New York firm stated that the most popular varieties in that market are: Tragedy, Hungarian, Burbank, Diamond, Wickson, Grand Duke, Santa Rosa and Italian. The Splendor, a new variety from California, is also highly spoken of. The bulk of the California fruit arrives early in July and August. The Pacific Northwest Italian prunes are being exported very successfully to England. A second firm reports that 75 per cent of the Northwestern fresh fruit goes to the great East Side, known as the Ghetto, and that this section will buy almost unlimited quantity as long as the prices are cheap.

A Chicago house states that other than Italians our plums are apt to be too small, and that the latter part of the season some of the Northwestern prunes arrive in very poor condition, showing considerable blister, mold and decay. Another firm believes the banana is bound to push harder and harder on the soft deciduous fruits. This is due to the cheapness in price. The Italian, Hungarian and Grand Duke are preferred from the Northwest.

In Philadelphia, Burbank, Grand Duke, Tragedy, Wickson, Giant, Formosa, Hungarian, Climax, Diamond, Santa Rosa, Italian, are popular.

In St. Louis one firm states that the city can handle fifteen carloads of Italian a week and maintain present prices. Could handle more provided prices were lowered. The Italian and Hungarian are preferred, but some Tragedy can be handled. However, they do not want the French from the Northwest. Popular California varieties are: Grand Duke, Burbank, Wickson, Tragedy, Giant, Hungarian, Diamond. This firm also reports that during the latter part of the season considerable of the Northwestern fruit gets very moldy.

Milwaukee—The Italian from the Northwest are well liked when they can wholesale at 75 cents a crate, which means a retail price of 25 cents a basket. The most popular varieties are: Tragedy, Italian, German, Climax, Santa Rosa, Grand Duke, Diamond, Hungarian, California Red, Clyman. California fruit is received in eight days; Northwestern in nine. Fruit shipped in

P. F. E. and S. F. R. D. refrigerator cars carry better than fruit in refrigerator cars coming from the Northwest.

Minneapolis—Do not like Clyman and Petite. Not familiar with Earliana, Gaviota and Champion. The other varieties described in this report are popular in this city.

Washington, D. C.—Not handling Northwestern plums and prunes, city being supplied largely by local fruits grown in nearby states.

Topeka, Kansas—Burbank, Grand Duke, Tragedy, Wickson and Diamond of California, and Italian, from the Northwest, are favorites.

Lincoln, Nebraska—Not receiving all the Italian that can be used. Could handle 50 per cent more fruit if prices were 25 to 35 cents a crate lower. Varieties preferred are: Burbank, Grand Duke, Tragedy, Wickson, Giant, Hungarian, Diamond, Santa Rosa and Italian. In early season trade likes red Japanese varieties; later prefers blue fruits.

Columbus, Ohio—The old-fashioned damson, Shropshire damson, French and Italian are preferred. This market doesn't take kindly to extremely large plums regardless of color. The Tragedy, Burbank and Champion have some demand.

Kansas City, Missouri—This city depends upon the Pacific Coast for its supply of plums, the Italian being about the only one handled from the Pacific Northwest. Occasionally varieties like Giant, Climax and Hungarian sell well. It is believed that the amount could be materially increased by shipping to territory adjacent to Kansas City, especially Oklahoma and Nebraska. California varieties meeting with favor are: Grand Duke, Tragedy, Wickson, Giant, Champion, Diamond, Santa Rosa.

Evansville, Indiana—Can use limited quantity of Italian and occasionally mixed cars of such varieties as Burbank, Grand Duke, Tragedy, Wickson, Giant, Hungarian, Climax and Clyman.

Dallas, Texas—Do not use large quantities of plums and prunes, a few being received from California with mixed cars of grapes. The blue plum is not a good seller in this market. Have never been successful in selling Northwestern plums. Red and yellow fruit sells better in this market.

Houston, Texas—Receive local supply in June, July and part of August. After that shipments of Burbank, Grand Duke, Tragedy, Wickson, Giant, Hungarian, Climax, Diamond, Clyman and Italian are handled. Some of the Northwestern plums tend to run too small in size.

Detroit, Michigan—The only varieties handled from the Northwest are the Italian and German, which always find a good market. Much local fruit from Michigan is handled. Such California varieties as Burbank, Grand Duke, Champion, Tragedy and Gaviota, are well received.

Tucson, Arizona—Most of the fruits come in mixed cars from Los Angeles. Are handling Grand Duke, Tragedy, Burbank, Gaviota, Wickson and Hungarian.



Courtesy Western Fruit Jobber

Fruit Jobbers and Their Wives Enjoying a Visit to a Banana Plantation in Midwinter

New Haven, Connecticut—Fruit begins arriving in June and continues until the middle of September. Fruit arrives in very good condition from the Northwest. Varieties being sold in city are: Climax, Burbank, Italian, Grand Duke, Tragedy, Wickson, Gaviota, Hungarian and Diamond.

Pittsburg—Most of the fruit comes from California. Varieties handled in largest quantity are: Clyman, Tragedy, Climax, Burbank, Abundance, Santa Rosa, Red June, California Red, Wickson, Diamond, Grand Duke, Sugar, Giant and Hungarian. The California fruit is systematically and well handled. Some Northwestern fruit received when California fruit is cleaned up.

Birmingham, Alabama—Popular varieties for this market are Burbank, Tragedy, Wickson and Hungarian. Most of the fruit received comes from California.

Portland—City over supplied with local stuff, largely in bulk. Some of the better grades of Burbank, Tragedy, Wickson, Climax, Santa Rosa and Clyman are handled.

Seattle—City favors Climax, Burbank, Tragedy, Hungarian, Clyman, Italian and Peach. Received a new package the past year, which they prefer. This is one basket wide, two baskets long and two baskets deep, one basket being packed on top of another, with a deck or board between.

San Francisco—Beauty, Santa Rosa, Climax, Diamond, Tragedy, Wickson, Grand Duke, Grosse, German, are preferred varieties. Second choice are: Sugar, Giant, Satsuma, Kelsey, Burbank, Clyman. Local fruit arrives from May to August. Could use considerably through August, September and October.

All markets, with the exception of Seattle, report uniformly that the present four-basket crate is a very desirable package, and it is doubtful if it can be improved upon.

Special Recommendations for the Pacific Northwest

The Italian prune is the most popular shipping prune, not only in the entire Northwest, but for the Pacific Coast.

The Hungarian, Tragedy and Champion are at the present time selling for higher prices than the Italian, owing to the under-supply of these varieties. So far, these are the only varieties we have been shipping from the Northwest successfully in commercial quantities.

The Northwest should not attempt to ship Petite prunes in the fresh state, or any plums or prunes that are small in size or of poor color.

The acreage of the Italian will increase materially in the next ten years, and it is probable that the prices will be lowered for this variety unless special attention is given to distributing it to new markets.

Since plums can be sold as long as they are good, it would seem that the Northwest should attempt to grow more varieties and lengthen the ripening season.

We would suggest that in each valley where green prunes and plums are a commercial crop that the following additional varieties be tried in a limited way: Beauty, Burbank, Grand Duke, Diamond, California Red, California Blue, Wickson, Giant, Gaviota, Formosa, Climax, Santa Rosa, Splendor, Earliana. While some of these varieties may not succeed as well as in California, on the other hand, some may excel California in excellence.

In attempting to grow most of these plums, especially the Japanese varieties, which tend to bear heavy and produce vigorous wood growth, it will be necessary for our growers to prune more vigorously and practice severe hand thinning.

The Northwest should be more careful in handling and packing the green prunes and plums.

The Apple as a Farm Product—History and Present Status

By A. Millard, Jr., Hood River, Oregon.

(Continued from July edition)

CHAPTER FIVE HOW MANY APPLES—OVERPRODUCTION

THE writer has been told on many occasions by various good business men, some of whom were farmers, to "keep out of the apple game—there will be overproduction." In the general sense that this term is taken it would seem from all points of view that this is indeed to be the case. However, without explanation, the admission of overproduction is sure to be misleading, and when it comes to the blanket advice to keep out of the apple game, it is indeed another question entirely. We will, therefore, at this point qualify and define this overproduction.

First, as to the subject of cycles of prices and plantings. G. F. Warren, in "Farm Management," says: "Man is so constituted that he is too likely to think that the present conditions are to continue. If we have a wet year or two, we think that it will always be wet; if good prices, these are to remain forever. In the case of prices, it is the very feeling of certainty that present conditions are to continue that makes it impossible for them to do so." Farmers, to some degree, and near-farmers to a much more marked degree, are prone, in determining what crops and animals to produce, to select those which have been high for the last year or two. The fallacy of this appears with consideration of price range over a considerable period, showing temporary inclines and declines that have no real indicative value. Further, it must be considered in regard to the total amount produced, that the weather for any particular year is almost as important as the acreage at that time. The annual crop tends to be much less out of adjustment to the demand than longer time crops for obvious reasons. To quote Professor Warren again: "The longer the time required to grow a product, the worse the periods of over and under-production become." Curves have been constructed to show the cyclic nature of prices with several products, and the result is very striking. The period for hogs is three years of high prices and three years at low—a six-year cycle—and graphed prices since 1867 show true cycles which only vary occasionally with a very large corn crop, etc. The writer believes Professor Warren to be the most logical thinker of prominence in agriculture today, and as to the cyclic nature of farm production, there can hardly be any question, but the case for each indi-

vidual or for each community is affected by many other factors.

From 1854 to 1864, apple prices were high, and from 1865 to 1874 they were very high, and continued at about this level until 1878, when the down slope of the curve was reached. Prices dropped quite steadily, more rapidly at first, till 1896, the year of the famous bumper apple crop. Since 1896, the prices have been rising steadily till the present. 1912 was a bad year, and 1914 has been a very bad year, and it rather appears that the approach of the down turn is at hand. This should be well under way about 1920, according to the cycle hypothesis. (See Appendix, Table 31.)

In Parma Township, Monroe County, New York, in 1912, 5.7 per cent of the apple trees were planted between 1859 and 1878, and only 11 per cent from 1879 to 1903, while 21 per cent were planted in the five years 1904 to 1908. (M. C. Burritt, Thesis, Cornell University Library.) In 1908, 6 per cent of the apple crop of this country was borne on trees planted since 1878, and since practically no trees were planted after this period till 1903, we may expect high prices in some years until the recent plantings fully affect production, and then large crops and low prices should prevail for a period of about twenty years. Professor Warren estimates that the plantings will affect prices about 1920 or 1925, but this estimate was made before the size of the last three crops, 1912, 1913 and 1914, and of these three, the first and last certainly point to an earlier Waterloo than Professor Warren anticipated.

The writer is convinced of the general soundness of the overproduction bugaboo in apples, but, at the same time, he fails to see this as complete discouragement to the present, or even the prospective apple grower. We should remember that weather is almost as potent a factor in the production of a given year as is the bearing acreage; farmers expect good and bad years with any crop, and most so with a biennial crop. A very progressive North Pacific grower has told the writer that he could do very well on a 1913 year once in three of four years, and 1913 was only a fair to good year for Western apples. A good many men will engage in the production of apples and they will make some sort of profit or they would cease to raise the fruit until the scarcity had brought the price up to a point where they could produce at a profit. The question for each grower and each community is: Who is going to raise the apples? They must be raised, 100,000,000 to 300,000,000 bushels a year, and competition of a very harsh sort will decide.

We have, above, covered in a way the question of high or low prices to come, but it will be well to attempt to settle this question from a slightly different angle. The following table may prove enlightening in the question

of comparative high prices of apples. It will be noted that apples have increased in price in nothing like proportion to other staple food products.

TABLE VII.—COMPARATIVE INCREASE IN PRICE OF APPLES AND OTHER CROPS

Apples	9.5%	Oats	37.7%
Cotton	64.1%	Potatoes	28.2%
Corn	41.9%	Wheat	36.5%
Hay	33.4%		

Prices must be higher or lower; they cannot remain at a medium level under the pressure of the capital involved. This capital is pretty well lost unless some return is obtained for apples, and it stands to reason that this capital will produce apples at a very low return rather than to mark itself out as a dead loss. We can start with the perfectly fair assumption of the existence at present and of the future "coming in" of further supply of more than enough trees to meet the demand for apples in any but small-crop years. As to the alternatives of high and low prices—if prices should show any prospect of being good, the farmers will crop (spray, etc.) more than enough apples to supply the demand at high prices, and the prices consequently will drop. Apples will be marketed as long as the farmer can get anything over his total cost of production, and in bad years fruit will be marketed below the cost of production, for once raised, the farmer must get what he can for his product. We have then a pressure of supply which will assure against higher than bare profit market prices in normal years. This pressure of supply will accomplish much in the lowering of the cost of production, considering production as taking the fruit clear to the consumer. Economic necessity, and this alone, may and doubtless will, alter the machinery of distribution, and here are involved several important factors which vitally affect our future prices. The chief of these is increased consumption with lower prices. This subject is best discussed elsewhere. It is safe to say that producers in general will receive in normal years what they now consider had apple year prices, and that the man who eats apples will pay less for them.

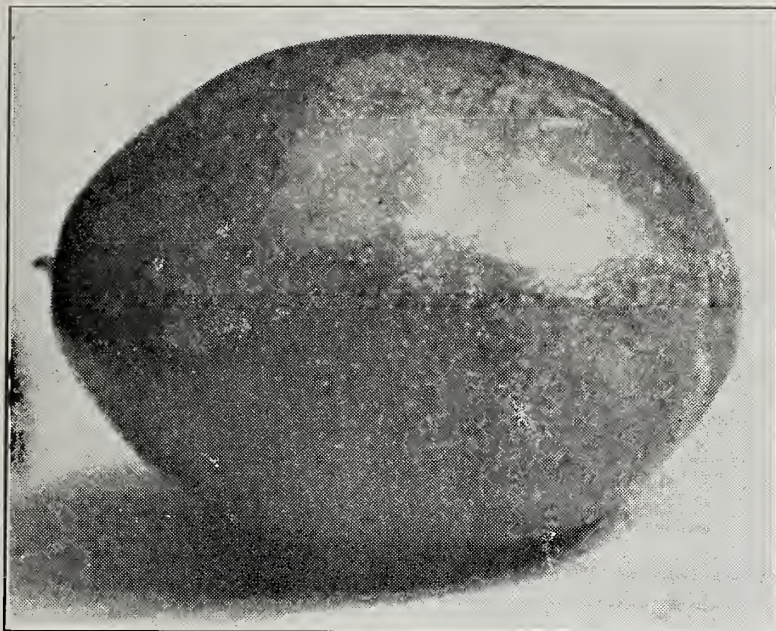
What, then, is to be the fate of the existing plantings of apples? Unfortunately, just the sort of statistics on plantings which would be most useful in this discussion, are not available. Figures on bearing and non-bearing plantings over a long period of years, and figures on annual plantings would do much to clear up this matter. However, census figures and figures from other sources can be of the greatest assistance if studied intelligently, and we will, below, consider several tables on plantings and production.

The following figures on the production of apples since 1896 are the best that the writer knows of. The figures are rather conservative, generally below census or government figures, and

Continued on page 27

Wanted

A position as superintendent or manager of a fruit farm by a graduate in horticulture from Kansas Agricultural College. Was raised on a farm and since graduating from college have spent three years in orchard work as foreman and manager. Can furnish best of recommendations. WM. R. CURRY, Dixon, Mo.



Franquette Walnut, actual size, grown on farm of J. H. Wheeler, Zinfandel, Calif.

Splendid Variety of Franquette Walnuts

[From the St. Helena, California, Star]

ONE of the largest and most interesting farms among the many productive ones in Napa Valley is that owned by John H. Wheeler, at Zinfandel, near St. Helena.

On this splendid estate will be found a large vineyard and well equipped winery, a thriving prune orchard, a sufficient number of acres of alfalfa to support a fine dairy herd and sleek bunch of hogs, and such a diversity of things that the visitor is at once impressed with the wisdom of its owner in not putting all his eggs in one basket. At Mr. Wheeler's place will be found, therefore, diversified farming carried on scientifically and with gratifying results.

But the feature of the Wheeler farm that impresses one most and is just now attracting widespread attention, is the grove of 140 acres of walnuts, now coming into bearing. About two tons of nuts were marketed at a fancy price this week, and each year from now on the yield will be larger until, when the trees have attained an age of ten years and have come into full bearing, it is confidently expected that there will be harvested annually from this one walnut grove a ton of nuts to the acre, or a total of 140 tons.

Walnut growing in Napa Valley, as an industry, is new, and consequently interesting from that viewpoint, but growers and others interested in walnuts are probably most impressed by the variety Mr. Wheeler has selected and that predominates in his grove.

After very wide investigation, Mr. Wheeler selected the Franquette as the best variety for this valley, and, in fact, it has taken the lead in California, because of the large size and splendid quality of the nut.

The Franquette walnut has easily taken the lead in grafted and budded stock in California. The nuts are eagerly sought by dealers and command a premium of several cents per pound over all others.

The variety was first brought to California by the California Nursery Company in early days, from the Grenoble district in France, where it developed from a century or more of breeding up in a climate much more severe than ours. It comes out a month later and sheds its foliage several weeks earlier than the Concord and Santa Barbara varieties, though the nuts ripen later.

Grafted by all leading nurseries onto California Black stock, the Franquette seems best qualified for all requirements of the central and northern part of the state, where it is blight proof.

Many seedlings have resulted from its wide distribution, some of which show marked improvement over the original European stock. One strain, the exact life size of which appears in the illustrations that accompany this article, represents an extreme variation selected by Mr. Wheeler as his specialty. It is a veritable "whale" among walnuts, weighing five ounces and measuring eight inches around one way and eight and three-quarters the other. This weight and the measurements, of course, include the shuck, but the nut itself is exceptionally large, is full of white meat, and has a light, firm shell.

The Franquette is wonderfully prolific when on trees old enough to bear, though not so precocious as some others. Mr. Wheeler grafts his California black walnut stock to this strain of Franquette only, and his product has attracted wide attention, excelling all others thus far produced in the state.

Some have objected to other Franquettes for their shy-bearing qualities. The strain in Mr. Wheeler's grove is certainly an exception, for the mature trees yield crops difficult to maintain without placing props under the trees. Mr. Wheeler lost three nine-year-old trees this year from breaking under their heavy loads.

The shucks of this strain, like all Franquettes, are remarkably heavy, so much so that they may be utilized separately for making valuable walnut pickles, if the nut be picked and removed therefrom at early maturity. The pickle somewhat resembles the olive, and is very palatable, being considered a great delicacy by many.

Mr. Wheeler has saved several hundred pounds of nuts of this year's crop, and these will form an attractive fea-



Same Nut cut through center, showing how thoroughly meat fills the shell



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ture in Napa County's exhibit at the Panama-Pacific Exposition.

From the very start the entire prunings of this Franquette stock have been eagerly bought by prominent planters and nurserymen, and thus they are being distributed over the state and Napa County in particular, where the industry bids fair to assume very large proportions. Certainly California growers of walnuts are to be congratulated on getting well started on such a marvelous producer. By such selection this state must ultimately outdo Europe in the production of walnuts, just as we have outdone Spain in the production of raisins and some other products.

When Mr. Wheeler decided to go extensively into walnut growing, he made a close study of every phase of the industry. His son, Rollo C. Wheeler, also became greatly interested, and the two visited all the large groves in the state and studied every available authority. Now that a large acreage of the trees are coming into full bearing a visitor will find every preparation made for caring for the crop.

Near the winery is a building 80 feet long, one half 30 feet wide and the other half 16 feet wide, the whole being 26 feet high. This is equipped with every modern device for handling the nuts, which are washed, sorted, dried and bleached. There are six tiers of wire mesh tilting drying trays, each of one ton capacity. These are arranged to dump automatically, and thus the nuts drop from one tray to the other in the process of drying. The plant has a capacity of 50 tons, and was installed by C. C. Sidwell, of Los Angeles, an expert in that line.

As the walnut industry has developed during the past few years, there have been many visitors drawn to Zinfandel

to inspect Mr. Wheeler's grove and plant.

When walnut trees come into bearing the nuts may be handled at light expense and command good prices; thus, it is safe to predict that Mr. Wheeler will soon find that branch of his varied farm work the most profitable and desirable of all the activities at Zinfandel.

Use the Garden Hose on Insects

Where city water pressure is available, the garden hose often affords the easiest way of checking the ravages of certain insects, states Dr. A. L. Melander, Entomologist of the Washington Experiment Station. Many people have the idea that strong poisons are required in controlling bugs, but this is not necessarily so. A stream of water delivered through a garden hose will most effectively serve in washing off and maiming such insects as aphids or plantlice, leaf hoppers, red spiders, young scale insects, the elm-bark louse, the cottony maple scale, caterpillars, slugs, bud-worm, as well as spores of fungus diseases that have found lodgment on the plants. Not only is this treatment serviceable, but in many cases it will give better results than can be had by insecticides applied by the small spray pump. The use of certain sprays about houses is often attended by staining of painted woodwork or by the persistence of disagreeable odors, which are obviated by the water cure. Even under some garden or orchard conditions, where water piped under pressure is not available, it may be most advantageous to combat certain insects with plain water applied in this case by a pressure spray pump through a plain-bored nozzle. Red spiders, currant worms and aphids call for such a recommendation, especially just before the fruit is to be picked, when spray

compounds might leave a taint. When aphids have curled the leaves they cannot be reached by the usual spraying but they must be touched by the poison to be killed. A stream of water is much more likely to wash out the aphids family from curled leaves than a misty spray is to penetrate into their midst. Many of these insects obtain their food by sucking, and sit with their beak deeply inserted into the plant tissue. When struck with a forceful stream the beak is cracked, and such insects, even if not killed outright, are unable to feed again. City shade trees besmeared with honey-dew from aphids moreover receive an advantageous cleaning from the hosing.—Washington State Agricultural College Bulletin.

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A Few Valuable Fruit Receipts

By Miss Helen A. Syman, Pittsfield, Massachusetts

Grape Blanc Mange.—Take one-half cup of grape juice which has been sweetened to taste. When boiling stir in two teaspoonfuls of cornstarch, blended with one tablespoonful of water. Let boil about five minutes, then pour into a pretty mould, a cup will do. The mould should be rinsed in cold water. Turn out on a saucer and place whipped cream around it. Any kind of fruit juice may be added.

Plum Sweetmeats.—When damson plums are ripe, peel and divide them, taking out the stones; put them over a gentle heat to cook in their own juice; when soft rub them through a sieve and return to the stove, adding just enough sugar to sweeten, a little cinnamon, and when nearly done add wine in quantity to suit the taste. This is done for the flavor. If sealing cans cannot be had, paste over with white of eggs on top.

Compote of Pears with Maraschino.—One pint of stewed pears; drain syrup into a saucepan and arrange the pears on a dish. Add one ounce of sugar, a

tablespoon of maraschino and a vanilla bean to the syrup; let simmer on fire to one-half the quantity; then strain the syrup over the pears and serve.

Cherry Tapioca.—Let stand over night one cup of pearl tapioca in cold water; in morning put in double-boiler and add one pint of boiling water; let it cook until clear, then add the juice of one lemon and one-half cup of sugar and one pint of stoned cherries; pour into a mold, set on ice to get good and cold. When ready to serve, unmold and serve with whipped cream flavored with lemon extract.

Queen's Pears.—Select small, hard pears, not too ripe, and boil until they can be pierced with a straw, in water enough to cover. For every six pears add one large cupful of brown sugar and one-fourth of a cupful of New Orleans molasses. Boil until the syrup is thick and stiff. Chill in the ice-box over night. Dissolve in three cupfuls of cold water one and a half cupfuls of white sugar, add tablespoonful of mixed spice; in this boil rice until tender; press the rice into small molds, chill and arrange upon a platter. Place a pear on each mould of rice and cover with syrup. Serve with cream.

Pineapple Cream.—One grated pineapple, two eggs, one cup of sugar; put in a double-boiler; when it boils put in a tablespoonful of flour wet with a little water; cook until it thickens;

when cold pour over it one-half pint of whipped cream.

Peach Pudding.—Mix one cupful of sponge cake crumbs in one quart of milk, add one-half cupful of sugar, the well-beaten yolks of three eggs and the stiffly-whipped whites of two eggs; mix well and bake until firm in center. Spread over the tops a thick layer of pared and thinly-sliced peaches and cover with whites of two eggs whipped to a very stiff froth with two tablespoonfuls of powdered sugar. Return to the oven with the door half open and leave until the meringue is a pale straw color. This is very nice and delicious.

Bavarian Cream with Peaches.—Cut peaches in bits and boil with enough sugar to sweeten them. When soft rub through a colander. Then add a half box of gelatine and one cupful of cream. Stir well and when it begins to set add one pint of whipped cream, previously prepared. Pour over mold and put on ice. Serve garnished with peaches cut in halves.

Peach Sherbert.—Melt one-half of a pound of sugar in a quart of water and cook twelve peaches in this syrup until tender. Mash the fruit fine. Soak a level teaspoonful of gelatine in cold water and dissolve it over heat. Add

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the prepared gelatine, with the juice of one large lemon, to the peaches, and cool the mixture well before freezing.

Peach Compote.—To make a compote of peaches, cut the pared fruit in half and put in a saucepan with four tablespoonfuls of sugar. Let them get heated through. Put each half peach on a square of sponge cake, hollow side up. Moisten one tablespoonful of corn-starch with cold water, adding two teaspoonfuls of lemon juice and one egg very lightly whipped, mixing with the peach syrup, and let all boil together for a few minutes. When slightly cool pour over peaches and put in cold place. The syrup will jelly all about the fruit. Garnish with whipped cream and candied cherries.

Peach Shortcake.—Make a shortcake dough by sifting together one quart of sifted flour, three teaspoonfuls of baking powder and half a teaspoonful of salt. Rub in half a cupful of butter, add the beaten yolks of two eggs and just enough milk to make a soft dough. Bake in rather a deep pan in a hot oven. When done, split with a hot knife, butter quickly and spread with sweetened peaches. The peaches should be cut up in rather small pieces, prepared before the cake is baked. Place the other crust on top, spread more peaches over it, and serve with whipped cream.

Peach Pie.—Bake a rich tart and when cool fill it with sliced peaches, sprinkling a little sugar over each layer. Over the top of these spread a covering of whipped cream, sweetened and flavored with lemon. In place of the cream a meringue may be spread on and browned in oven. Use whites of two eggs and powdered sugar for this meringue.

North Pacific Fruit Distributor Appointments

Mr. E. W. Jones has been appointed district manager of our Chicago office. Mr. Jones will have general charge of all of our business in the Chicago territory, including everything from the Twin Cities as far East as Pittsburgh, Philadelphia and New York, in which territory he has had wide business experience in all lines of deciduous fruits.

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ALBERT BETTENS, Manager

Since 1913 Mr. Jones has been in the brokerage business at Kansas City, closing out his business to accept the Chicago appointment. In 1903 Mr. Jones joined the sales force of the California Fruit Distributors and was appointed sales manager in 1906, and later assistant general manager, during which time he was in intimate and personal touch with all of the fruit consuming centers in the United States and Canada, where he has a personal acquaintance with both the trade and their fruit requirements.

Mr. Jones is now making a visit to the fruit producing sections of the Northwest, and will shortly leave for his new headquarters in Chicago.

Mr. C. W. McCullagh, for the past three years connected with the Yakima Valley Fruit Growers' Association, a sub-central of the North Pacific Fruit Distributors, in the capacity of assistant sales manager and later sales and traffic manager, has been appointed as district manager with headquarters in Minneapolis.

This is not a new territory to Mr. McCullagh, he having covered this field which extends from Montana east, including Canada, annually ever since his connection with the Yakima concern. Mr. McCullagh brings to the Distributors a most intimate knowledge of not only apples but other Northwestern fruit, his duties in the past having demanded personal supervision of the picking, packing and assembling of mixed cars of soft fruits, which are sold largely in the territory that he will

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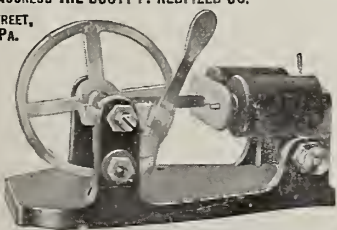
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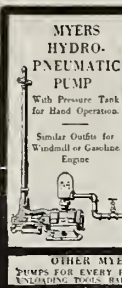
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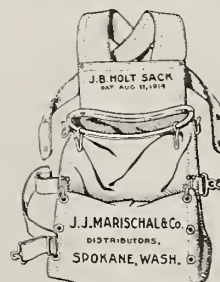
this year handle for the Distributors. He had personal supervision over the shipment of over 1,000 carloads of mixed soft fruit, as well as nearly 1,500 carloads of apples from the Yakima Valley this past season alone.

Previous to his connection with the Yakima Valley Fruit Growers' Association, Mr. McCullagh was connected with the Chicago & Northwestern Railway Company for six years, traveling west from Chicago, and for seven years he was manager of large produce interests in Seattle. His past experience enables him to render the best of service not only to the Distributors, but to the trade in the territory which he will cover, being thoroughly conversant with the shipping, sales and traffic needs of the Northwestern territory.

Mr. J. S. Robinson has been appointed district manager of the Middle and Southwestern territory, with headquarters at Omaha. He has been with the Distributors since their organization, and last year had headquarters at Fort

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of Congress of March 3, 1879.

Canning and Home Canning.—A good many fruit growers in the Northwest have experimented in a small way with home canning outfits and found that the business can be conducted so as to save a great deal of fruit that otherwise might go to waste during the season when the markets are glutted. There is always a good demand for home canned fruits and particularly peaches and pears, which are consumed in immense quantities. It seems well worth while to suggest to fruit growers that they give the matter of home canning the proper consideration, and it certainly seems to the editor of Better Fruit that this work is well worth every fruit grower trying out, particularly where he has a family to look after this work without extra expense. The steam pressure outfits made by many of the canning machinery manufacturers certainly simplifies the process, enabling a canner to do the work much more rapidly at much less expense and turn out a product that is certainly far more reliable.

"The Development of the Fruit Package," the leading article in the July edition of "Better Fruit," written by E. D. Lake and W. B. Arens, was prepared as a special essay in a course of study at the Oregon Agricultural College known as "Commercial Pomology," in the Division of Horticulture in charge of Professor C. I. Lewis. Professor Lewis has made a study of the development of practical ideas in his classes by suggesting topics similar to this one and other subjects like picking, packing, transportation, storing and selling fruit, all of which comes in the course of "Commercial Pomology." About thirty of the young men register

in this course annually. Half of the year is given to the subject of problems in connection with the distribution of fruit crops. The editor desires to state in addition that the article on the "Status of the American Fruit Trade" in our July, 1914, edition, by R. M. Rutledge, a student at the Oregon Agricultural College, was written in a similar way at the suggestion and under the direction of Professor C. I. Lewis.

Fruit Graders.—The fruit growers of the Northwest have learned during the two hard years of 1912 and 1914 that two things are necessary in the fruit business in the production of fruit, namely, Efficiency and Economy. There are many modern conveniences that are being introduced which supply efficiency, enabling the grower to do his work much more economically. Perhaps no article which has been put on the market recently has rendered more service than fruit-grading machines, which are saving fruit growers all the way from 5 cents to 10 cents per box in packing, grading and sizing. Therefore, it seems advisable to suggest that every fruit grower should look into this matter for himself and see if he cannot do his work cheaper and save some money by using a grading machine.

Walnuts.—The walnut industry has been a paying proposition with nut growers who have good groves in bearing. Therefore, Better Fruit is pleased

to publish an interesting account pertaining to the walnut orchard of John H. Wheeler, Saint Helena, California, showing his success. Mr. Wheeler attended the University of California at the same time the editor was a student at that institution. Mr. Wheeler has made a specialty of walnut growing, and told the editor at the convention of California fruit growers at Davis, California, last year, that he had an especially fine strain of Franquette walnuts. The article in this edition will prove interesting and valuable to the fruit growers of the Northwest who are thinking about planting walnuts. Walnut growers' associations have achieved the greatest success of any of the selling organizations, having been able to secure extremely satisfactory prices every year for their walnuts.

Prunes and Plums.—The prune and plum industry is one which has made good money for the growers in the Northwest except in occasional years. Plums are grown extensively in California and shipped East in immense quantities by carloads. The Northwest has done very little in the plum industry, but has grown prunes quite extensively. With the profit made in these two varieties of fruits in the past in the Northwest, and in other sections as well, it would seem that the fruit grower would be justified in investigating the plum and prune industry, and therefore Professor Lewis has contributed a very interesting article which

THE SHOTWELL Box Marking Machine



This machine patented May 11, 1915.
Patent No. 1138985.
Any infringement will be prosecuted.

Is designed to print all the stamps required on a box of apples or other fruit at one stroke, in perfect alignment, saving time and labor. The machine prints the box to look as follows:

125 EXTRA FANCY WINESAP 40 LBS. NET JOHN DOE
WENATCHEE, WASH.

It eliminates untidiness and unevenness in marking.

Saves time in picking up five different stamps separately, as all these stamps are placed on a wheel and the entire marking of the box as shown above is done in one movement and as quickly as one stamp is put on by the old method. The machine works automatically and is self-inking.

The Shotwell Box Marking Machine is a device that saves labor, does it neatly with dispatch. Made to be attached to any open end press and can be adjusted to mark any standard fruit box of any variety, apples, pears, peaches, oranges and lemons, etc.

It is made of malleable iron, assembled ready for use.

With each machine is included, without extra charge, eighteen number stamps, three grade stamps, one net weight stamp, one two-line grower's address stamp, ten variety stamps and an ink pad. Price, neatly packed ready for shipment, \$15.00, f.o.b. Wenatchee, Washington.

Ready for delivery July 15. Order promptly, as only a limited number will be assembled this year as orders are taken. For full descriptive illustrated catalog and further particulars, write

Shotwell & Wilmeroth
WENATCHEE, WASH.

contains much valuable information on plums and prunes, which will be of interest to the grower in assisting him to make up his mind about the advisability of planting plums and prunes. This article also gives much valuable information about varieties which are best adapted to the Northwest, and the ones which are the best money makers.

Apple Harvest.—The apple picking and packing season will begin in September with the fall varieties. It is no unusual thing for dealers to be short on supplies, such as picking buckets, baskets, ladders, etc., during these years of depression, when dealers are ordering in small quantities. Therefore, it seems wise to suggest to the fruit grower that it is advisable for him to order his ladders, picking receptacles, nail stripper, box press and stamping machine, and such other articles as he may need, without delay, for otherwise the supply in the different local stores may be sold out and consequently the grower will be unable to get just what he wants, when he needs it the most. Therefore, the editor seems justified in advising the fruit growers to give attention to this matter promptly.

New Fruit Juices.—Since the wave of prohibition has swept over the country people are now looking for new drinks. Prohibition will undoubtedly create an immense demand for many kinds of fruit juices, which will enable the fruit grower to convert much of the surplus into juices, in this way realizing a good profit and saving much waste. The short article on New Fruit Juices in this edition is forth reading.

Store Apples

NEAR BIG MARKET

Apples stored with us take in transit rate and quick delivery to

**New York, Boston
Philadelphia**

and other big eastern markets.

LOCKPORT COAL, ICE & COLD STORAGE CO.

Lockport, New York



LEWIS AUDIBLE SPEED INDICATOR

The "Missing Link" that attaches to any Cream Separator for any speed. Rings a warning bell while under-sealing. Clicks loudly at the right speed and at over-speed is silent. Increases yield of butterfat and insures uniform tests at creamery. Descriptive circulars on application. Postpaid \$3.25. Liberal terms to agents.
Columbia Dairy Supply Co.
Portland, Oregon

10c for Three Months

Trial subscription to leading fruit and garden publication. Gives timely information each month. Eighteen years old. Regular subscription rate \$1 for three years. Address

Fruitman and Gardener

11 Main Street

Mount Vernon, Iowa

Comfort for the Milch Cow

Careful dairymen are paying greater attention each year to the little savings hitherto unthought of in the way of stock. Particularly is this true in protecting the herd from the annoyances which have hitherto been regarded as altogether in the course of nature. Barking dogs are being less and less permitted upon the premises, still less to chase in the cows. The necessity of pure drinking water is appreciated as never before, and above and beyond all else, the loss in milk production, flesh, time and temper, incident to the irritation of winged pests—flies, gnats and mosquitoes, is being combatted as never in the past. There are on the market today reliable preparations which act as absolute fly repellants, used externally, harmless yet wonderfully effective. Applied with a sprayer or with a soft cloth, sponge or brush, to the exposed surface of the cattle daily, they furnish instant and complete relief. No dairyman can afford during the fly season to be without a supply. Their use will spell dividends many, many times in excess of the slight initial cost. The government is now issuing bulletins advocating the use of fly repellants.

From 1901
to date
more than
5000 people
in the Northwest
have bought
and used the
**Stover Gasoline
Engine**

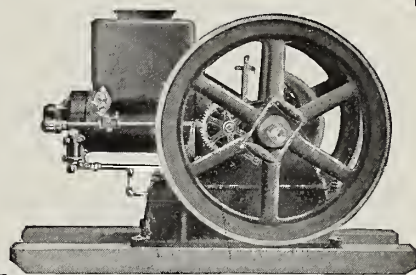
The best evidence of the quality of a machine is a yearly increase in number purchased by people who have the opportunity to ascertain the value of the article before buying.

IF YOU WANT
CATALOGS AND
PRICES OF
THIS POPULAR
ENGINE, ADDRESS

Mitchell
LEWIS & STOVER CO.

PORTLAND
SPOKANE
BOISE

OR CALL ON THE
NEAREST STOVER AGENT



Asphalt-Base Oils Are Best Lubricants

Lieutenant G. S. Bryan, of the Naval Engineering Experiment Station, Annapolis, Maryland, in a paper published in the Journal of the American Society of Naval Engineers for February, 1915, says: "Oils made from asphalt-base crudes have shown themselves to be much better adapted to motor cylinders, as far as their carbon-forming proclivities are concerned, than are the paraffine-base Pennsylvania oils. The carbon formed from the latter is, as a rule, extremely hard and clings to the metal surfaces, while that from the former is soft and can easily be wiped off any surface that it is deposited on. This would be expected from a consideration of the nature of the hydrocarbons composing the oil, and it has also been demonstrated in practice. The explanation lies in the fact that the paraffine-base oils are generally composed of the paraffine series of hydrocarbons, while the asphalt-base oils are composed mainly of the ethylene and naphthene series. One of the characteristics of the latter two series, as compared with the paraffine series, is their tendency to distill without decomposition.

The New Three-Grade Cutler FRUIT WEIGHING MACHINE

Delivers an EXACT PACKING SIZE to each bin and makes the packing of fruit in boxes a simple affair at one-half the cost of hand methods.

Our new models employ a simple method of weighing the fruit—the only principle by which the necessary accuracy can be accomplished. We know this sizer to be more efficient than any other machine on the market.

The Outstanding Features Are:

Astounding accuracy and the ability to regulate the delivery to any bin so that every layer packed at random therefrom will have the desired tightness and every pack will have the same height. Use your ordinary help as packers.

A quiet, gentle handling of the fruit—**no bruising** or violent dropping or roll of the fruit.

Automatic feed with a belted sorting table accommodating from four to ten sorters.

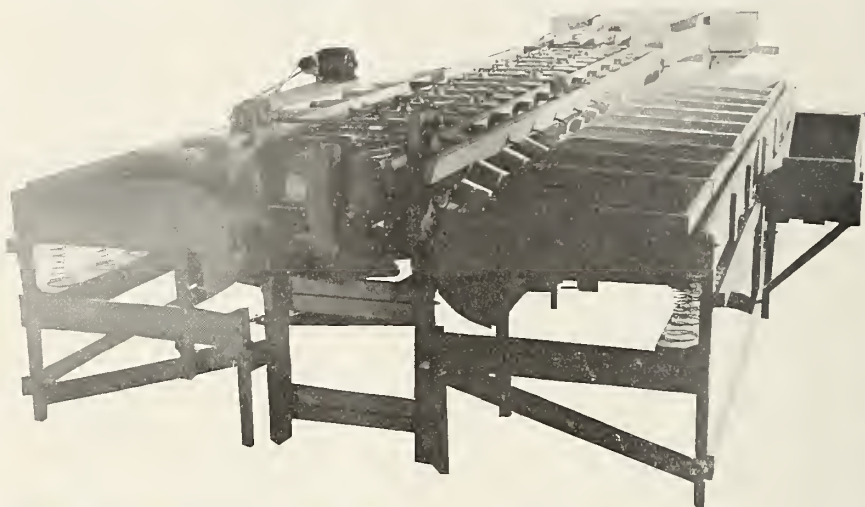
WORKING CAPACITY up to 1,000 boxes in ten hours.

Built sectionally in three sizes so the capacity can be increased later by the addition of a section.

Patented spring supported bins with three times the capacity of ordinary bins and a practical device to move the fruit into the bins without any pawing or raking of the fruit by the packer. These bins are far in advance of those used on any other sizer.

The CUTLER SIZER can be quickly set to handle either two or three grades and each grade has a separate set of bins.

This machine has the benefit of our three years' experience in the manufacture of sizing machines.



WRITE FOR DESCRIPTIVE LITERATURE

THE CUTLER FRUIT GRADER CO., Hood River, Ore.

Barnett Picking Pail

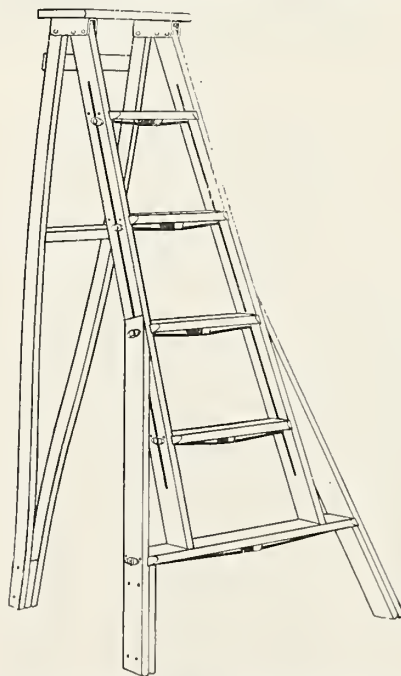


Made of heavy galvanized iron. Has a canvas sack lining with patented opening and closing device. If you like a picking pail you will want a Barnett.

Price, each \$1.50
dozen lots 16.50

These are but three of the articles shown in our new catalog of orchard and packing house supplies. Write for this catalog. We have the goods you need at the right prices.

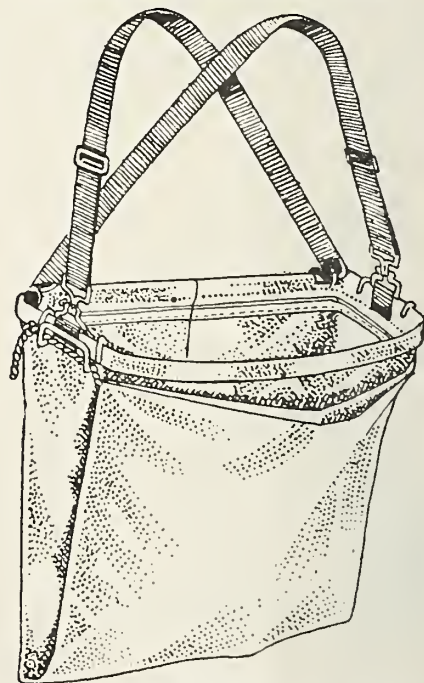
Hardie Ladder



Only well seasoned spruce used in its construction, with each step braced. Strong and rigid, it weighs but 3 lbs. to the foot. A thoroughly high grade orchard ladder made in six to fourteen foot lengths.

Price, per foot 35c

Portland Picking Bag



A strong canvas sack with broad shoulder straps. Does not tire the picker and enables him to use both hands in picking. Easily and quickly emptied. A speedy and economical device for every orchard.

Price, single bag \$1.50
dozen lots 15.00

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PORTLAND, OREGON**

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BAILEY'S Standard Cyclopedia of Horticulture should be close at hand for quick reference by every member of your force, because it presents the combined labor and experience of the foremost North American authorities on horticultural subjects. These six magnificent volumes place at the disposal of the horticulturist, whether practical, amateur or scientific, an ample and readily accessible account of every subject which at any time may be of interest or practical use in his calling. Its range is wide, covering plants, flowers, vegetables, trees, tillage processes, tools and implements, cultural discussions, botanical history, geography, commercial markets, and a myriad items that only constant use will reveal. The scope of the volumes has not been confined to botanical subjects alone, but every subject in any way incident to the activities of the horticulturist has been fully covered, commercially as well as scientifically.

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"The immense wealth of practical horticultural facts and teachings contained in this work, and the ease with which they are found in it, place Bailey's STANDARD CYCLOPEDIA OF HORTICULTURE at the top. In other words, it is the Monarch of Horticultural Literature."

Three volumes now published. Write us for 16-page Prospectus containing Complete Description and Our Special Offer.

BETTER FRUIT PUBLISHING CO., Hood River, Ore.

Soil Management and Irrigation

By L. G. Dunn, Manager Swiss Valley Ranch, Incorporated, Bliss, Idaho

THE subject of soil management and irrigation is an important one to the fruit grower and the farmer of the Northwest. Without any question the soil of Southern Idaho has most wonderful productive qualities when properly managed. Therefore, we will not enter into the discussion of the different kinds of soils in technical terms, but accept our Idaho soil as it really is, making the leading thought of the

subject: First, soil management to so regulate the soil elements of soil fertility as to make them available for plant life; second, irrigation, to regulate the soil moisture, which is most essential to help create the chemical actions that take place between the different elements of fertility, making plant-food available to the grasp of the hungry plants. Without moisture in the soil all other elements of plant food are worthless.

Idaho has some of the richest soil in the world, as has been proven by the many record-breaking crops that have been produced in the Twin Falls country, as well as in other parts of the state. It is simply a question of how are we going to get the maximum yield from the land? This question is constantly before the American farmer. If Neighbor Jones gets 100 bushels of oats per acre, and Neighbor Brown but 40 bushels on practically the same soil, on adjoining farms, there is a reason. If one end of a potato field yields twice as many good marketable potatoes as the other end, there is a reason for it. And the reason is generally found in the previous management of the lands in question. If we go into these fields and study in detail methods of soil management of Jones and Brown for a few years back, we will no doubt learn why both fields did not yield 100 bushels of oats per acre, as they should.

Several years ago I cut some oats for a neighbor with my twine binder. In going around a ten-acre field I found one end of the field very short, about 30 bushels to the acre. On the other end about three acres was so rank that I could hardly get through. This end would make about 90 bushels to the acre. I asked the reason, and it was explained in this way. Where the short grain was it had been in oats ever since it was cleared—five years. The other end was an old alfalfa field, followed two years with potatoes, then the oats. There was a reason. This lesson I have never forgotten. Since that time I have studied many such conditions in an effort to solve some of the many problems of soil management and irrigation.

The major portion of the soil is decomposed rock and had its origin in the rock masses of the earth surface, which has been transformed into its present form by the action of the weather, changes of temperature, erosion by rivers and glaciers. As the bulk of the

Patent for Sale

Patent Fruit Gatherer—saves the work of several men. Inexpensive, easily operated. Moderate investment. Write for particulars.

ASSOCIATED INVESTMENT CO.
618 Yeon Building Portland, Oregon

What are your dairy problems?

To get started profitably in dairying as a side-line, the fruit grower needs helpful advice and suggestions.

Our service department will delight in doing this very thing, without any charge or obligation.

We are sole Oregon distributors for "Simplex" Separators, B-L-K Milkers, Papec Ensilage Cutters, Simplex Silos and all kinds of dairy, butter-making and cheese-making supplies.

Your name on a postal will bring Free Catalogs

Monroe & Crisell

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Summer Excursions to Eastern Cities



Seventy-two hours Portland to Chicago, via Spokane, over THE NORTH BANK ROAD, or to California on the floating palaces, SS. "Northern Pacific" or "Great Northern,"—Trans-Atlantic magnificence, speed and comfort—sailing from San Francisco and Portland every TUESDAY, THURSDAY, AND SATURDAY—26 Hours at Sea.

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	Direct Both Ways	Via California One Way
New York . . .	\$110.70	\$128.20
St. Louis	71.20	88.10
Chicago	72.50	90.00
Kansas City . . .	60.00	77.50
New Orleans . . .	95.20	100.10
Omaha	60.00	77.50
St. Paul	60.00	84.25
Milwaukee	72.50	90.00
Toronto	92.00	109.50
Denver	55.00	72.50

Many other places in proportion. Send for booklet.

10-day stopover on one-way tickets East through California via this route.

"THE NORTH BANK ROAD" between Spokane, Portland and the Pacific Ocean traverses one of the choice scenic regions of the world.

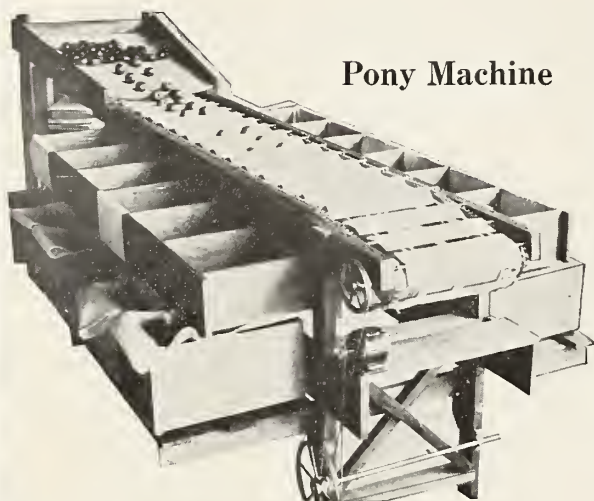
R. H. CROZIER, A. G. P. A.
Portland, Oregon

Palmer Fruit Sizer

Standard Machine, \$200, Floor space 6x24 feet.

Sizes three grades at a time. Capacity two carloads daily.

{ First grade into nine sizes.
 { Second grade into four to six sizes.
 { Third grade into three to five sizes.



Pony Machine

Pony Machine, \$150

Floor space 6x12 feet.

Sizes two grades at a time into four or six sizes as desired.
 Capacity one carload per day.

Either machine can be used for boxes or barrels. Openings on both machines expand uniformly from 1½ inches to 4 inches square.

Illustration shows sorting table attachment; also travelling belts for sorting table.

Machine discharges the fruit into boxes or barrels without bruising.

Box packing can be done direct from the machine or, if preferred, on separate tables, giving the grower a chance to work his packers on the particular sizes and grades he wishes packed first.

Write or wire for catalogue and prices.

PALMER BUCKET COMPANY, Hood River, Ore.

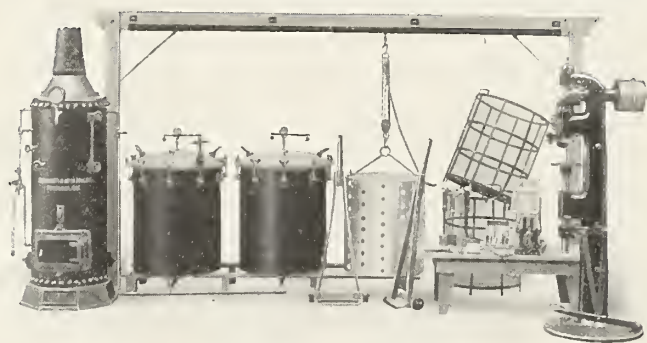
soil is decomposed rock it carries mineral fertility. The additional material being organic matter, composed of decayed animal and vegetable matter. This organic matter, called humus, carries the nitrogenous plant food, and is one of the most important factors to be

considered in the study of the soils of this country.

The soils of Southern Idaho are rich in all of the most important mineral elements of plant food (which as a rule are well equalized) but are deficient in organic matter and nitrogen so essential

to plant life. Our soil is well supplied, as a rule, with all the various mineral elements of soil fertility except, nitrogen, which we must supply. The question then, is how to supply this nitrogen in available form. Plants cannot use this nitrogen in its free form. But certain microscopical forms of life that grow upon the roots of leguminous plants, forming nodules thereon, have the power, through the aid of the oxygen of the air, to take this free nitrogen from the air and convert it into organic nitrogen, available for plant food.

The most important of the legumes is alfalfa. Alfalfa being a very deep-rooted legume is able, through its nodule-forming bacteria within its roots, to place nitrates deep in the soil, and greatly increase the fertility of the soil to that extent. Though it may draw heavily on the other elements of the soil they are generally so abundant in the soils of the Northwest it only tends to equalize the amount of the available supply of the different plant foods within the soil. And for this reason all crops do so well following alfalfa. Organic matter may also be supplied to the soil by plowing under any vegetation, green cover crop, or by the application of barnyard manure. As a great many of the fruit growers and farmers of this country do not handle much live stock, a liberal supply of barnyard manure is not available. Therefore the organic matter must be supplied to the soil by a systematic rotation of crops, cultivation and irrigation.



Canning! Canning!

This Steam Pressure Canning Plant will save your perishable Fruit Crop when nothing else will. Ten different size outfits to select from.

Write for Catalog B-2

HENNINGER & AYES MFG. CO.

47 First Street

PORTLAND, OREGON

FOR SALE

One H. & A. Steam Fruit Evaporator of one ton capacity of green fruit in 24 hours. The machine contains 45 trays of 24x38 inches. This machine has been used as a demonstrator for about six months and is in good condition. Price, f.o.b. Portland, Oregon, \$250.00 complete with pressure reducing valve and steam trap. 5-horse power boiler required to run it.

B. M. HURST
207 Clay Street Portland, Oregon

IN LIEU OF POTASH

UNDER the present shortage of potash, we recommend super phosphate used in conjunction with lime.

Apply 200 pounds of super phosphate with a half ton of lime per acre for assured success

In super phosphate you supply the fibre builder, without which seeds will not form and mature.

Moderate in price. Easily sown without special soil preparation.

Apply immediately or during the next ninety days.

Write for prices.

PORTLAND SEED CO.

PORTLAND, OREGON



TRADE MARK

WHEN WRITING ADVERTISERS MENTION BETTER FRUIT

The availability of soil fertility is dependent upon natural conditions and soil management. Supposing that we have all the necessary elements of plant foods in the soil. The soil must then be in the right compact condition, with moisture, warmth and soil air, in order that various chemical changes may take place for the development of plant food, available to the grasp of the plants, to produce plant life. No matter how rich the land is in plant food, unless the three leading factors, moisture, warmth and soil air, are present, the various chemical changes incident to the decomposition and development of plant food, cannot take place. Without air in the soil the seeds will not germinate and grow.

If air is excluded from the soil where plants are growing, they will get yellow and sickly and will die, if the air is excluded long enough. Soil must be ventilated, first, by tillage. All the different processes of cultivation produce a change of air in the soil to a certain extent. Second, by vegetation. The growth of any kind of vegetation, by drawing moisture out of the soil tends to draw air in to take its place. A greater aeration of the deeper soil is possible by the decomposition of the roots of the deep feeding plants that leave openings as the roots decay that admit soil air and nitrogen. Third, by the addition of humus. Barnyard manure, weeds, stubble, or any vegetable matter plowed under, will tend to aerate the soil. Air is necessary in the soil to supply the oxygen for the development of the nitrogenous plant food, and also needed for the processes of decomposition and other chemical actions that develop the various forms of plant foods.

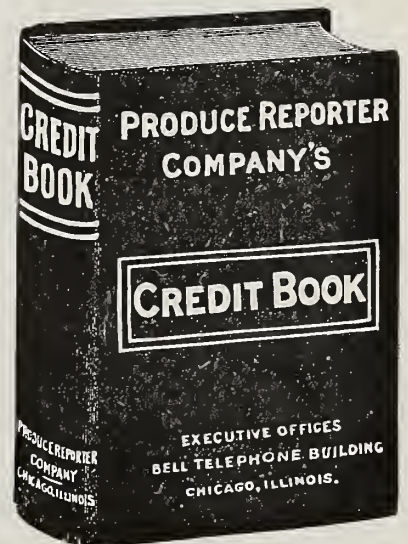
A proper degree of temperature is an indispensable factor for a high degree of fertility. It is said that corn requires a soil temperature of 60 or 65 degrees during some part of the day for satisfactory germination. And if the soil is so cold as to allow only slow and feeble germination, the crop can never make the growth and development that it would have made under the same after-conditions but with a good, vigorous start. Speaking of plants, we have reference to fruit trees the same as any other plants. A dark-colored soil will absorb more heat from the sun than will a light-colored soil. A south slope will hold a higher temperature than a level field. A smooth and compact soil with a soil mulch on top, made so by thorough tillage, increases the temperature of the seed bed by removing any excess of moisture that may exist and by checking the evaporation from the surface. Tillage also favors the more rapid decomposition of the organic matter in the soil, which action produces heat. Rapid evaporation processes have a marked cooling effect upon the soil, the same as the evaporation of moisture through the canvas of a water bag tends to cool the water in the bag. This illustration proves that rapid evaporation of moisture from the soil will lower the temperature. This is especially true where land has been flooded

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BY USING THE

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Eliminate All Unnecessary Middlemen

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The **Credit Book** guides you to reliable, responsible buyers — points out the "tricky" and "unfair" dealers — gives the summarized experiences of other shippers with every firm in every market. It is used today by the great majority of successful fruit and produce handlers.

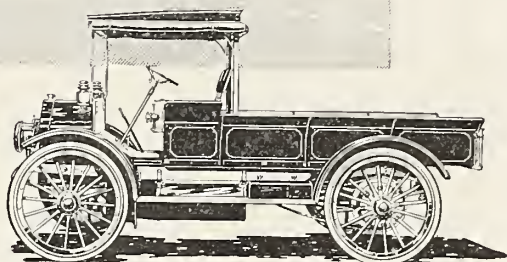
Our Inspecting and Adjusting Department looks after rejected or complained of shipments — Adjusters located in all principal markets. Collections, Litigations, Railroad Claims promptly, efficiently handled for members.

Produce Reporter Service operates on the correct co-operative principle for the mutual benefit and protection of members — it enables the smallest shipper to profitably compete with the largest "Distributor." It affords the only practical solution of your problem — write us today for full information — you incur no obligation whatever in doing so.

Produce Reporter Co.

NEW YORK CHICAGO
Fruit Trade Building Bell Telephone Building

WHEN WRITING ADVERTISERS MENTION BETTER FRUIT



International Motor Trucks

TIME is such an important factor in the marketing of fruit and vegetables, that any reasonable device for saving time receives earnest consideration. Perhaps the principal reason why **International Motor Trucks** are so popular among fruit and vegetable growers is because they save so much time on the road.

Around the larger cities truck farmers buy **International Motor Trucks** because their produce is on the road from one to three hours less time and is, therefore, delivered in such good condition that it commands the best prices.

Add to this advantage the ability to see customers first, which an **International Motor Truck** gives, and add again the saving of time on the return trip, and you have three good business-getting, money-making reasons for buying an **International Motor Truck**.

There are also other good reasons which every fruit and vegetable grower should know and which it costs nothing to find out. Drop us a line and we'll send you complete information about our three motor truck models, "M" for 1,000-lb. loads, "E" for 1,500-lb. loads, and "F," the new **International 2,000-lb. truck**.

International Harvester Company of America

(INCORPORATED)

Crawford, Neb. Denver, Col. Helena, Mont. Portland, Ore.
San Francisco, Cal. Spokane, Wash. Salt Lake City, Utah

and has an excess of moisture under a puddled surface. In this case a thorough cultivation as soon as the land is in condition to cultivate, making a soil mulch to conserve the moisture in the lower soil, will raise the temperature.

The matter of supplying artificial moisture to the soil by means of irrigation, is no doubt the most important feature of soil management. And irrigation justly comes under the head of soil management in any irrigated country. The amount of moisture in the soil and the way it is applied or drained off, tends to regulate the movement of soil air, and affects the temperature, the decomposition of organic matter, and transforming the various mineral elements into soluble forms of plant foods available to plant life. The corrugation or furrow system is the best method of irrigation. Our plans in irrigating the Swiss Valley orchards, where we have 120 acres of young apple trees and 230 acres of Italian prunes, one and two years old, has been to start to irrigate the young trees as soon after planting as possible, within a week, anyway. We make furrows on each side of the tree rows, about 18 inches from the trees, and allow the water to soak well into the roots. When the land is not very moist we follow the planters as soon as possible and run the water directly into the hole and puddle each tree. We found the very best way to plant a young tree was to puddle it in as it was being set, either by irrigation or by pouring in a bucket of water on the roots and then cover that up with about four inches of dry soil. By this method we got nearly 100 per cent stand.

The greater portion of our land is rather coarse sandy land, and the water percolates rapidly and subs well. The second year we run the furrows farther away from the trees on both sides, allowing the moisture to reach the roots by subbing as much as possible, thereby retaining the soil air with the moisture, generally following each irrigation by a thorough cultivation, which aids greatly in the development of nitrogen.

When we raise other crops between the trees we never plant anything nearer than four feet from the trees, and the trees are irrigated and cultivated the same as if there was no other crop there. We raise alfalfa, clover, corn, beans and potatoes between the tree rows, and find the trees do as well there as where we clean cultivate. In fact, where we have potatoes or beans between the trees they have done better than any place else. Where other crops are raised between the trees it takes more water. However, where the trees are cultivated and irrigated as usual and the crops between the rows are kept in good condition by thorough cultivation and irrigation, the trees will make as good healthy growth as if no other crop was there. Where trees are making a good healthy growth it is not best to irrigate too late in the growing season, as it is best to let the new wood harden up a little before the extreme cold weather sets in. In this re-

There Are Big Profits in the Cider Business

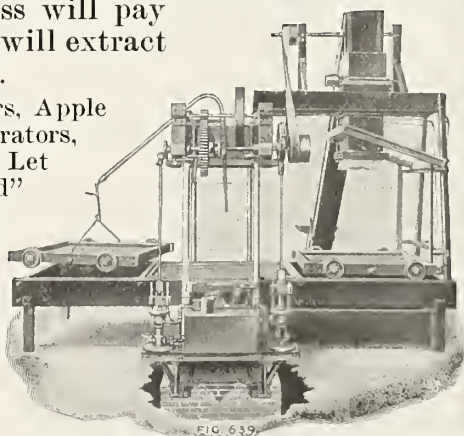
Let us tell you how you can earn big profits making Cider, Vinegar, Apple Butter, etc., on a "Mount Gilead" Hydraulic Cider and Grape Juice Press. A "Mount Gilead" Cider and Grape Juice Press will pay for itself in the extra juice it will extract as compared to other makes.

We manufacture Evaporators, Apple Butter Cookers, Vinegar Generators, Cider and Vinegar Filters, etc. Let us tell you about "Mount Gilead" outfits and how you can put good profits in your pocket by their use.

The Hydraulic Press Mfg. Co.

60 Lincoln Ave., Mt. Gilead, O.

Pacific Coast Representatives
THE BERGER & CARTER CO.
17th and Mississippi Streets
San Francisco, Cal.



gard, one must be governed by local conditions. If the land is clean cultivated the water may be turned off in August. But if weeds, grass or crops are growing near the trees they will require water much later. In extreme cases, where the land is foul and the soil has a good under-drainage, it is best to irrigate until October or until there is some fall rain. In case of a very dry fall, such as the one just past, I think it a wise plan to irrigate the orchard some time in November, after the leaves have fallen.

As an experiment we irrigated a portion of our young apple orchard last November. The results of this experiment will be carefully noted next summer, as a future guide. I am quite sure the results will be very favorable. The extreme dry weather last fall, and the extreme cold spell that we had in December is an unfavorable condition for young trees, and we may reasonably expect some damage by winter-killing, though it is impossible to tell at this time what the outcome will be. The most essential feature of irrigating an orchard for best results is to keep an even degree of moisture in the soil, by close attention to the irrigating and cultivating at the right time and in the right way to meet local conditions. I am quite sure that a well regulated and even degree of moisture under a bearing orchard will have a very favorable effect upon the keeping qualities of the fruit in storage or transit. If the trees are allowed to get very dry while the fruit is maturing, then the moisture applied, the fruit will take a new start and make an unnatural growth that is unfavorable to the keeping qualities of that fruit. I am not very familiar with this feature, but it seems to me that it is a very important one, and the matter should be thoroughly discussed by the State Horticultural Association.

In conclusion, there are a few leading thoughts to keep in mind. Preparation of the soil, by deep plowing and a system of cultivation that will place the soil in the right degree of compact. Supply the much needed nitrogen, by the application of organic matter, by a system of crop rotation, cultivation, and the application of manure. Regulate the soil moisture by careful irrigation and cultivation. Cultivation plays the most important part in regulating the three leading factors, temperature, moisture and soil air.

Mr. J. N. Shotwell, a fruit grower of Wenatchee, last year patented a practical device which is giving splendid satisfaction for stencilling boxes. It stamps the grower's name, postoffice address, the number of apples contained in the box, grade and variety, all on one end of the box in regular alignment at the one movement. Such facilities which save labor and expense are going to be big factors in helping the fruit grower solve his problems by reducing the cost of production. This machine is being manufactured and put on the market by Shotwell & Wilmeroth, Wenatchee, Washington.

Free Book on Road Construction

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It is by no means confined to this method, but thoroughly covers every detail of road construction and maintenance, and the uses of all modern methods and appliances for this purpose. It is fully illustrated by halftones and original plan and sectional drawings. A copy will be sent free to any supervisor, path master or private party who has anything to do with building or maintaining roads.

Write to us at once and you will get one the first copies issued. Ask for booklet No. 338.

Good Roads Department

Du Pont Powder Company, Wilmington, Del.

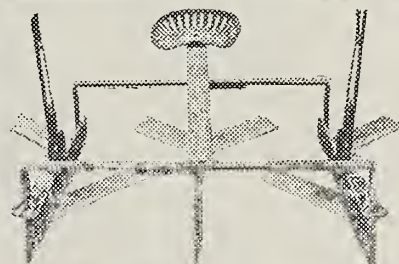
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To Growers and Shippers of High Grade Apples in Boxes
We Recommend Our

Edgemont Lid Press

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Strong, Durable, Convenient and Moderate in Price

That a Lid Press with nail stripper and cleat box, brackets to hold lids where you want them, cleat hooks to hold cleats while nailing and a perfect treadle ratchet is appreciated by the growers is shown by the sale of hundreds of them to growers not only of the Northwest but of nearly every fruit district of the United States.

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You can buy an
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WRITE US ABOUT THE
Universal Fruit Sizer and Conveyors
 Most Efficient. Least Expensive. August is the month to investigate Universal Graders
WESTERN FRUIT GRADER & MFG. CO.
 Grand Junction, Colorado



The Use of Dynamite in the Orchard and Garden

By Floyd Wertz, Oral, Fall River County, South Dakota

DOUBTLESS the most of us have always thought of dynamite as a powerful agent of destruction to be used only in warfare, tearing to pieces great rocks in road-building and mining, and criminally used in wrecking buildings, etc. I am proud to live in an age where the use of high explosives in the peaceful and remunerative occupation of farming is becoming nation wide. The stability of our nation depends not so much upon our being a nation of warriors, but more upon our resourcefulness as agriculturists and stockmen.

There are many times on the farm when a powerful rending force is necessary in such work as breaking rocks, tearing out stumps, ditching, etc., and deep subsoiling for trees and the field crops. In this article I will explain the uses of dynamite in that indispensable part of the farm, the orchard and garden. In the orchard or garden it is impracticable to use heavy deep tilling machinery, and dynamite does the work thoroughly and econom-

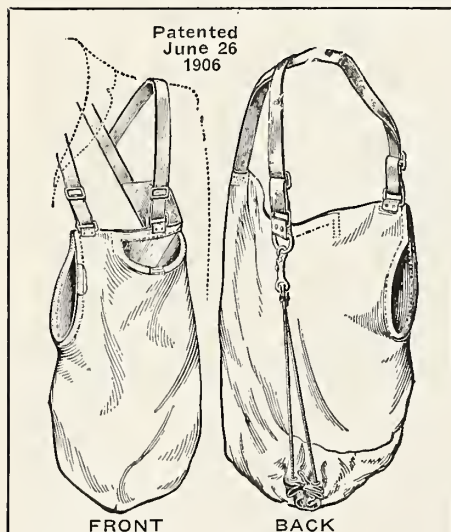
ically. In impervious soils there is a deficiency of moisture, humus and air. Deep tilling allows water that would otherwise stand on top until evaporated to be absorbed and stored in the subsoil for use in possible dry periods. It enables the farmer to supply humus to a greater depth in the day of deep-rooting legumes and manure. It allows the circulation of air to a proper depth.

Land once deep tilled with dynamite will not need it again in years, if it is properly surface tilled and fertilized. My experience is that from 40 to 50 pounds of 20 or 25 per cent dynamite, divided into one-fourth pound shots, will do a thorough job on an acre of ground. In preparing horseradish and asparagus beds and planting trees and shrubs, we have found it to be of great value. After having failed to grow good horseradish for three years, we prepared a bed by exploding one-sixth pound charges at a dept of two and one-half feet, spaced about eight feet apart. Since then we have secured root of large size and good quality. In preparing ground for a row of asparagus, we exploded one-sixth pound charges, spaced four feet apart and about two and one-half feet deep. This made it easy to dig a narrow ditch two feet deep, which we filled to a proper depth for the roots with rotted manure well mixed with earth. This asparagus did not suffer in the driest weather. Although impervious soil may be rich in mineral plant food, we must bear in mind that it is deficient in humus, and to have lasting benefits from deep tilling this humus must be supplied. In the case of an orchard, where deep-rooting plants cannot be planted, this humus should be supplied in part at the time of setting the trees.

The method of blasting for and setting trees is about as follows, depending somewhat upon the character of the soil, depth of hardpan, etc.: The holes are easily made by driving a pointed steel bar, one and one-half inches in diameter and four feet long, to a depth of from two and one-half to four feet, as the depth of the hardpan calls for. The bar should not be driven entirely through the hardpan, but within from six to twelve inches. A one-half pound stick of 20 or 25 per cent dynamite is primed with cap and fuse and carefully lowered and tamped. The first six inches of earth should be tamped very lightly and the balance should be tamped as tightly as can be done with a wooden tamping stick. The charge is now ready to explode, which is done by lighting the fuse. After the explosion a barrel-shaped

chamber is usually found, twelve or eighteen inches below the surface. This should be filled to a proper depth for the tree with rich humus-bearing earth and the hole is ready. Set the tree and fill the balance of the hole with rich earth, and it has every chance to live, as far as its root-bed is concerned. Now, in the center of the squares formed by each group of four trees, it is an admirable plan to blast a hole and fill with well-rotted manure, leaf-mold, etc. This place takes water readily and plant food is soon absorbed on all sides which will help feed the trees for years.

Orchards set in spade-dug holes may be cultivated by exploding dynamite between the rows, or if the trees are far apart, three small charges around



Ideal Fruit Picking Bag

Made of heavy-weight duck and so arranged as to equalize the load on both shoulders.

The openings are arranged so both hands can be used in picking, and the drawstring is arranged so the fruit can be let out at the bottom in emptying the bag.

The bag can be let down to the bottom of the box before opening the drawstring, thus not bruising the fruit.

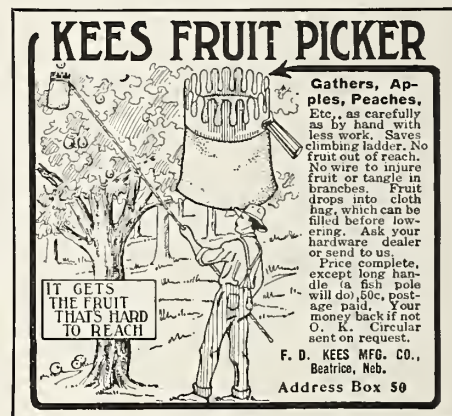
This is the best and handiest arrangement for picking fruit that has ever been offered. A trial will convince even the most skeptical.

SAMPLE. POSTPAID, \$1.00

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Western Commercial Fruit Evaporator Co.

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Refer to our ads in the March, April, May and June numbers of "Better Fruit"

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Established 29 Years
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APPLES

Our Leading Line

each tree about six feet from it. Where the dynamite is exploded close to the tree it is necessary to break through to the chamber and fill it with moist rich topsoil. Deep tilling with dynamite should be done when the soil is reasonably dry. In the case of some of our western country the hardpan absorbs but little water even though the topsoil is at times excessively wet. If the dynamite is placed at the proper depth, this may be subsoiled at any time. The best time for subsoiling and blasting tree holes is in the fall. This catches the winter and early spring moisture and stores it for use later on. A few trees well set and cared for will beautify the landscape far more than a large number poorly set and cared for. I have known of hundreds of trees dying in the last few years, not for lack of rainfall, but for lack of conserving the rain that did fall. By all means use explosives for making tree holes, even though by so doing fewer trees may be set.

Pacific Coast Fair Dates

Vancouver (Canada) Exhibition, Vancouver, B. C., August 14 to 21.
 Southwest Washington Fair, Centralia-Chelalis, Washington, August 23 to 26.
 Columbia River Interstate Fair, Vancouver, Washington, September 6 to 11.
 Walla Walla County Fair, Walla Walla, Washington, September 13 to 18.
 Spokane Interstate Fair, Spokane, Washington, September 13 to 18.
 Washington State Fair, North Yakima, Washington, September 20 to 25.
 Oregon State Fair, Salem, Oregon, September 27 to October 2.
 Cascade International Livestock Show, North Yakima, Washington, November 22 to 27.
 Western National Dairy Show, Seattle, Washington, November 8 to 13.

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AND WE ARE RIGHT"**

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Nine miles continuous rows of trees, the largest apple orchard ever planted.

All are one- two and three years old; the two and three year old all sold, amounting to over 3,000 acres.

We are now offering our one-year at terms to suit you.

We give five years' from date of planting, free care. Our company is unlike others in the feature of staying with our purchasers after the free care period. Our plans make our interests mutual; we all work together for the interest of all.

Our Booklet will give you a simple statement of our dealings and methods. Write us for information.

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Northwestern Bank Building
Portland, Oregon

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Awarded
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Northwest Fruit Ladders

Not excelled by any Fruit Ladder
on the market

We use Air-Dried Spruce Lumber. Rods under each step.

Price of ladder will surprise you. If your dealer does not sell the Northwest Fruit Ladder write us for prices and circular before buying. You will save money and get the best ladder.

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OUR PRODUCTS ARE OF SUPERIOR QUALITY
AND GUARANTEED TO GIVE SATISFACTION.

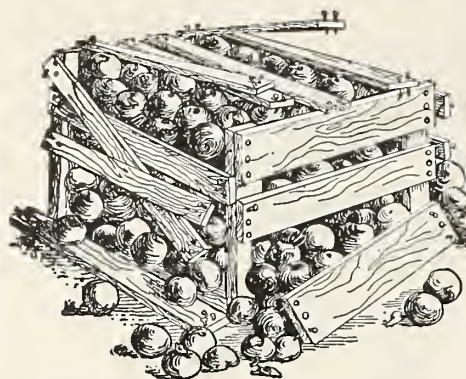
PRICE and QUALITY always right.

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A. C. RULOFSON CO.

"The Cement Coated Nail People"

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PACIFIC COAST SALES MANAGERS



BEFORE using Cement Coated Nails.

Western Cement Coated Nails for Western Growers

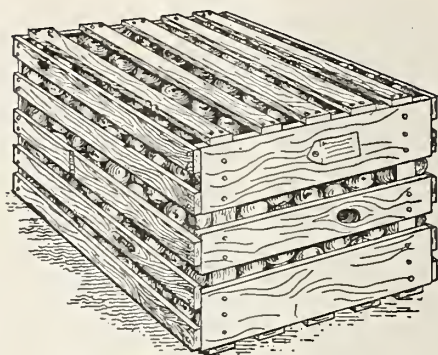
Our Cement Coated Nails are always of uniform length, gauge, head and count. Especially adapted to the manufacture of fruit boxes and crates. In brief, they are the Best on the Market.

Write for Growers' testimonials.

Colorado Fuel & Iron Co.

DENVER, COLORADO

Pacific Coast Sales Offices
Portland, Spokane, San Francisco
Los Angeles

AFTER use of C. F. & I. Co.'s
Cement Coated Nails.

Moving the Fruit Grower Into Town

By Geo. F. Whitselt, of the International Harvester Company of America

WITH the fruit grower the moments are golden. He must gather his crop on a certain day—the day it gets ripe. He must keep it cool. He must get it to market the same day or the following morning. All of these things require speed, precision and expedition. The fruit grower and corn raiser must then be as different as their jobs. The former must be able to think and act quickly. These conditions and the kind of men that meet them, may have something to do with the fact that motor trucks are coming so rapidly into use in the fruit

growing business. The head of the motor truck department of a large concern recently said: "Judging from the development during the past year, I believe the motor truck will supplant soon practically all other forms of delivery in the fruit growing business."

When we look into the advantages of motor truck delivery over horses and wagons for growers of fruit, we wonder only why the change has not been more prompt than it has. Markets are often a long drive from orchards. One grower in an Eastern state had to rise at one o'clock every morning to get to market, 38 miles distant, and to arrive at 7 a. m. This was hard on the disposition, but it was necessary so long as horses were the motors. One day a motor truck salesman came along, showed the grower some interesting figures, and he now gets up at 4 a. m., just as the birds are starting on their morning's music and the colors in the east are becoming attractive.

Another fruit grower, who lived a long way from town, often found the market glutted when he reached it. Growers who lived nearer had unloaded before he could possibly arrive. There were other markets, but it was out of the question to make them with slow delivery. The hot sun would mount high into the sky before another city could be visited. There was nothing to do but return home. A motor truck moved this raiser nearer town. It enabled him to enjoy an even chance with growers who lived nearer, and in case he found the demand in that market satisfied, he had no cause for worry. He could go on to a second market, or even a third. The motor truck lengthened his reach, his stride. It moved him in, and solved his specific problem.

Growers of all tender-skinned fruits that are susceptible to rapid decay have a further thing to keep them awake nights. That is, how to pick their fruit in the cool of the day and get it delivered. The man who has a refrigerating establishment can outwit nature, but the small grower must meet her conditions. Peaches, on account of

their delicate complexions, are always a worry in this way, and the same, to some extent, is true of other sensitive fruits.

One peach grower lived so far from a town in New Jersey that he could not gather his fruit after four in the afternoon and get it into town. Picking in the heat of the day meant hot, damaged fruit, and late picking meant no market. A motor truck solved the dilemma and made the producer master of the situation. It gave him leisure,

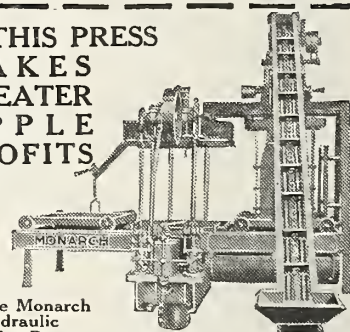
SEE CALIFORNIA AND HER TWO GREAT EXPOSITIONS NOW

California is this year holding two great universal Expositions, one at San Francisco and the other at San Diego, in celebration of the completion of the Panama Canal and the joining of the Atlantic and Pacific Oceans. These two Expositions represent an expenditure exceeding one hundred million dollars. To supply the demand for reliable and authentic information on these Expositions and California, we have published two beautiful books; one on San Francisco, the Exposition and Northern California; the other on Los Angeles, San Diego, the Exposition and Southern California; also a lithographed view of San Francisco in colors (size 30x45 inches), a picture of the rebuilt city, including the Exposition. Each book is 6x9 inches, contains nearly 200 pages and many beautiful illustrations.

These two books and large bird's-eye view give a comprehensive, honest history and description of the state, her principal cities, resources and her two great Expositions. Sent prepaid for 35 cents each or all three for a one dollar bill, money order, draft or check. Order now, addressing

North American Press Association,
Publishers,
1420 Hearst Building, San Francisco.

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The Monarch
Hydraulic
Cider Press

is suitable for both individual and merchant service. With it you can work up all the culls into profitable cider. Our celebrated high pressure design, combined with minute accuracy in construction, produces maximum quantity of juice from the apples with low operating expense.

Monarch Presses are built in sizes having capacities from 15 to 400 barrels a day. 60-page Press Catalogue explaining the numerous exclusive Monarch features sent free on request. Write for this instructive book to-day.

A. B. FARQUHAR CO., Ltd., Box 106 York, Penna.

We also manufacture Engines, Saw Mills, Thrashers, Potato Diggers, Grain Drills, Cultivators.

THE BARTLETT PEAR A MONEY MAKER

In Nevada County, California, conditions are ideal for the best results. Pears from this county took first prizes at the State Fair and at the San Francisco Land Show. Eight gold medals for fruit at Land Show. Uncleared land sells for \$20 to \$80 an acre. Cost of clearing varies, but the average land can be bought, cleared and planted, for \$150 an acre. The climate is ideal. City of Grass Valley has pay roll of \$100,000 a month. Richest and deepest gold mines in the world. Write for literature to

CHAMBER OF COMMERCE
GRASS VALLEY, CALIFORNIA

independence and a new hold on his proposition.

The Wyman Fruit Farm, Brunswick, Ohio, was up against the distance problem and solved it to its own satisfaction with a motor truck. "I feel sure we would not be able," says J. P. Wyman, manager, in commenting on the situation, "to handle our fruit crop without the use of the motor truck. Living, as we do, eighteen miles from market, the truck saves us many dollars in time and expense, over horses, in handling our fruit."

Thus, in matters of time, convenience, wider range of markets, grasp of the job, and peace of mind, the motor truck is proving to be the most popular hit on the fruit grower's program. It means shorter hauls, quicker deliveries, more profit, and a better time for the fruit grower; fresher fruit, better fruit and more fruit for the consuming public.

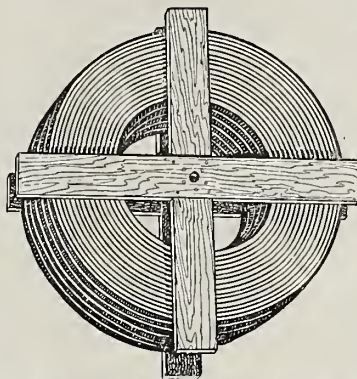
New Fruit Juices for the Home

That the juice of currants, blackberries, black raspberries, sour cherries, and peaches may be prepared and kept as successfully as grape juice and by the same methods, has now been demonstrated in the course of a series of investigations which the United States Department of Agriculture is conducting into the whole complicated question of fruit juices. The juices of the fruits mentioned, it has been found, retain their characteristic color and flavor after being sterilized and stored away, and can, therefore, be made available for use throughout the year in households and at soda fountains, etc. In this way it is thought much fruit that has hitherto been allowed to go to waste may be utilized.

For reasons, however, which are not as yet very thoroughly understood, the various fruits differ greatly in the effects of sterilization upon them. Thus, strawberry juice and red raspberry juice lose their distinctive colors and flavors very readily, and, therefore, cannot be put up on a commercial scale and marketed as grape juice is. Lemon and orange juices also undergo peculiar changes in flavor after sterilization, and no satisfactory method of overcoming this obstacle has yet been developed. Lemon juice is the more promising, but this, too, cannot yet be manufactured commercially with success. With certain precautions, on the other hand, pineapples can be made to yield a sterilized juice of a very attractive flavor, which should have distinct commercial possibilities. The juice, however, should be kept in cold storage at from 32 to 35 degrees Fahrenheit after sterilization, and most of the suspended material should be removed by means of a milk separator or by filtration. Moreover, where atmospheric oxygen is not excluded in the process of bottling, the juice darkens gradually.

These studies have already resulted in the discovery of a method of producing concentrated apple juice by freezing, which is not only easier to ship

Spend a Nickle and Save a Dime



No. 3 Peerless Duplex Strapping in coils of 6,500 feet each—\$14.63 per coil with liberal discount.

Use Peerless Duplex Strapping ON YOUR Shipping Boxes

and

- (1) You will prevent pilfering.
- (2) You will prevent damage in handling.

No. 3 Duplex Strapping is made of high grade Cold Rolled Steel of considerable tensile strength and pliability. The turned edge protects the packer's hands; the knurled center prevents the nail from slipping while being driven.

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No. 359 Monadnock Building, San Francisco, California

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515-521 Greenwich Street, New York, N. Y.



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Portland Tent & Awning Co.

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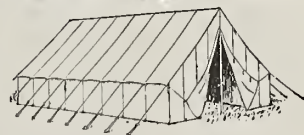
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Canvas Goods of All Descriptions

Hammocks, Camp Furniture, Etc.

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It describes our 300 guaranteed,
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RELIABLE
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APPLE, PEAR AND PEACH BOXES
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GOOD SERVICE—Write us
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SERVICE AND QUALITY PROVEN

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PERFECT, ½-inch, for 300 lbs. pressure,
50-foot pieces, coupled.

Per foot 15¢

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pressure. Any length up to 500 feet.

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In 50-ft. pieces, coupled. Per foot 12¢

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In 50-foot pieces. Per foot 10¢

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European Receivers of American Fruits

Eldest and First-Class
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A B C Code used; 5th Edition

Our Specialties are

Apples, Pears, Navel Oranges

than ordinary cider, but which will
keep much better. In the concentrated
juice, however, the presence of sugar
and acid retards the growth of micro-
organisms and fermentation is very
slow.

Similar methods are now being tried
out with other fruits. In the case of
grape fruit-juice, for example, concen-
tration to a syrup by freezing is easily
accomplished, and it appears at the
present time that there are great com-
mercial possibilities in this method,
although further experimentation is
considered necessary. In the case of
fruits whose juices do not suffer any
change of flavor or color in the process
of sterilization, this method is not likely
to prove necessary.

Details of the experiments, with a
discussion of the effects upon the vari-
ous fruits of sterilization, exposure to
atmospheric oxygen after sterilization,
storage at low temperatures, etc., are
contained in a new bulletin of the
United States Department of Agricul-
ture, No. 241, “Studies on Fruit Juices.”
—U. S. Department of Agriculture Bul-
letin.

BORDEAUX MIXTURE

Bordeaux mixture is the standard fall
spray for use on apple and pear trees
to control Anthracnose; on peach trees
and other stone fruits to control Peach
Blight, Shot-hole Fungus, etc.; and to
control Anthracnose on grape vines,
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“ORCHARD BRAND” Bordeaux mix-
ture paste is made from high grade
materials, combined by chemical pro-
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paste, as sold, is ready for use and
dilutes readily in water, thus over-
coming the necessity of dissolving blue-
stone, slaking lime, diluting the two
separately and mixing together after
dilution. It is UNIFORM in composi-
tion, and when properly applied is an
EFFECTIVE treatment for the control
of the troubles mentioned above.

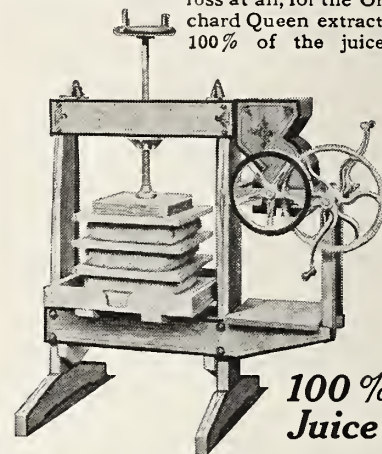
It is, in reality, a more ECONOMI-
CAL preparation to use than the usual
home-made mixture. The various in-
gredients are so combined as to give the
greatest efficiency, and this is possible
only by chemical exactness. The slight
difference in cost between this and the
raw materials for making Bordeaux
mixture at home is more than offset by
the INCREASED EFFICIENCY of the
prepared paste, the prevention of waste
by improper combinations, the saving
of labor in making and the cost of
maintaining mixing and storage tanks.

In addition to this we have a full
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Materials of best quality, including
Lime-Sulphur Solution, Atomic Sulphur,
Arsenate of Lead, paste and powder,
Soluble Oils and Oil Emulsions. Full
information furnished free on applica-
tion. GENERAL CHEMICAL COM-
PANY, 201 Sansome Street, San Fran-
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Turn Waste Apples Into Good Profits

WITH an Orchard Queen Cider

Mill you can make your
windfalls, culls and unmarketable fruit
pay you 50 cents a bushel. No waste or
loss at all, for the Or-
chard Queen extracts
100% of the juice.



100 %
Juice

The ORCHARD QUEEN CIDER MILL

Simplest, easiest-operated, cleanliest and
most efficient of all cider mills. Doesn't
crush the apples, but grates or grinds them,
breaking the juice cells so that when pomace
is pressed in its sanitary cloth-lined forms,
all the juice is extracted. Easily operated by
either hand or power. Strongly built in one
size only—sold at a low price.

Write today for folder describing the Or-
chard Queen Cider Mill and showing how
to convert your orchard losses into profits.

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GALLIGAN BROS.
Proprietors

HOOD RIVER, OREGON DUFUR, OREGON

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FIRST AID TO FRUIT TREES**Winans' Net Tree Support**

Prevents fruit-laden trees from breaking, holding the limbs up more efficiently and at much less expense than propping. Holds limbs in place, preventing damage and dropping when the wind blows. Meshes are large enough so fruit can be picked through them—open at bottom so picker can get inside the net, or net can be removed at picking time.

This net of finer mesh will keep the birds from eating the blossoms or fruit in districts which are thus troubled.

For further particulars, descriptive circulars and price lists, write

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and Term Deposits**

**F. S. STANLEY, President
E. O. BLANCHARD, Cashier**

Apple as a Farm Product, Etc.

Continued from page 8

represent something like the commercial crop. Estimates for 1896-97 and 1898 are from "Better Fruit," Vol. V, No. 5, and estimates for 1911, 1912, 1913, 1914 are from various sources, including the Pomology Department at Cornell University and certain government figures. All of the years are from estimates of the American Agriculturist:

**TABLE VIII.—UNITED STATES PRODUCTION
OF APPLES IN BARRELS**

1896	69,070,000	1906	38,280,000
1897	41,530,000	1907	29,540,000
1898	28,570,000	1908	28,850,000
1899	37,460,000	1909	25,415,000
1900	56,820,000	1910	23,825,000
1901	26,970,000	1911	31,499,000
1902	46,625,000	1912	47,825,000
1903	42,626,000	1913	30,900,000
1904	45,360,000	1914	40,505,000
1905	24,310,000		

The average for the five years, 1896-1900, from the above table, is 46,690,000 barrels; the average for the five years, 1901-1905, is 37,178,200 barrels; and for 1906-1910, 28,582,000. It appears, then, that there has been a regular decline in production, the second period averaging 9,511,800 less than the preceding five years, and the years of the third period averaging 8,596,200 less than those of the second. Note, however, that since 1910, every crop has been above the average of the previous five years (1905-1910). The lowering of production may be explained by the fact that until about 1911 practically all bearing trees (94 per cent estimated) were planted previous to 1878, when a low-price period set in and planting ceased. These bearing trees are rapidly going out with age and accident (wind storms, etc.) and a decrease in production, 1896-1910, is to be expected. We have further seen earlier in this chapter that the last period of planting began about 1903, and it is also to be expected that production will increase when these trees begin to come in, about 1910-1913.

Mr. L. J. Steele, in undergraduate work at Cornell University, in the last year, has conducted a questionnaire with nurserymen all over the country. From a great many replies he selected thirty-eight, from twenty-four states, and from these he finds that 17.6 per cent more apple trees were bought for setting 1909-1913 than were bought during the four years previous, 1904-1908, and that the trees purchased in 1913 showed a decrease of 5.3 per cent from the number purchased in 1912. The high planting had been increasing steadily for about ten years up to 1913, when the very bad year of 1912 caused the above 5.3 per cent decrease. 1913 was a good apple year, comparatively, and though figures are not available, probably 1914 plantings increased somewhat over 1913. There is a tendency to let the pendulum swing too far; we go on after evidence definitely shows that apple plantings are hardly the most promising agricultural investment.

The following U. S. census figures are very valuable. There were 120,152,795 bearing and non-bearing trees in 1890, 201,794,764 in 1900, and 217,121,689 in 1910. The maximum was not reached till 1895-1896, and the commercial crop

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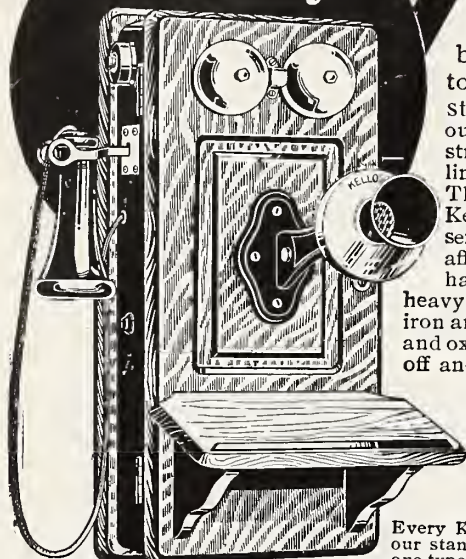
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decline since has been given; the higher number of trees in 1910 over 1900 simply shows the existence of a larger proportion of non-bearing trees (about 45 per cent). The 1910 crop was but about half of the 1900 crop. The number of farms, the bearing and the non-bearing trees in the United States and in several of the larger producing and more indicative (recent heavy planting) states, are as follows:

TABLE IX. — BEARING AND NON-BEARING APPLE TREES, AND FARMS, 1910 CENSUS

States	Farms	Trees
United States...	2,980,398	151,322,840 bearing
United States...	1,498,746	65,798,848 non "
New York.....	168,677	11,248,203 bearing
New York.....	48,007	2,828,515 non "
Missouri.....	183,396	14,359,673 bearing
Missouri.....	75,035	3,624,833 non "
Washington....	21,156	3,009,337 bearing
Washington....	21,401	4,862,702 non "
Oregon.....	23,850	2,029,913 bearing
Oregon.....	14,327	2,240,636 non "
California.....	19,671	2,482,762 bearing
California.....	12,716	1,054,107 non "
Colorado.....	7,968	1,688,425 bearing
Colorado.....	6,496	1,972,914 non "

Before commenting on these figures, it will be well to submit figures from the same source for 1909 production and value of crops in several crops. Interesting comparisons can be made here. The yield figures are the "agricultural" and not the commercial yield; the latter is usually 40 to 50 per cent of the former.

TABLE X. — BUSHELS AND TOTAL VALUE OF APPLES IN VARIOUS STATES, 1909

States	BusheLS	Value
New York (1st).....	25,409,000	\$13,343,000
Michigan (2nd).....	12,332,000	5,969,000
Pennsylvania (3rd)...	11,648,000	5,557,000
Missouri (4th).....	9,968,000	4,885,000
Washington.....	2,672,000	2,926,000
Oregon.....	1,931,000	1,657,000
California.....	4,935,000	2,902,000
Colorado.....	3,559,000	3,405,000
United States.....	146,122,000	83,231,000

Missouri, in 1910, had more bearing trees than any other state, but Missouri apples were worth but about 50 cents, while Washington apples are worth better than a dollar a bushel. In the West, where high value per bushel is shown, there have been the heaviest plantings of late, and there are the largest proportion of non-bearing trees; Washington has half again as many non-bearing trees as bearing trees. In New York there are about 127 trees to the farm, while in Washington there are over 200 trees to the farm. This last is important, for the question of small versus commercial producers will be a vital one in the future competition. Nearly half the farms of the United States (46.9 per cent) reported bearing apple trees in 1910, but a very large proportion of these are only kitchen orchards or are used as such except in years of specially good apple prices. Though there was a decline in total production of 16.7 per cent from 1899 to 1909 ("agricultural") crop, census figures, production increased in 30 states and decreased in but 18. The largest increases in production were in Missouri, Michigan, Colorado and California, and the largest decreases were in Ohio and Pennsylvania.

Definite apple statistics on Northwest plantings are conspicuously lacking, but in this connection the following opinion of Mr. Shepard, the editor of "Better

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Fruit," in a letter to the writer, December 5, 1914, should be of much value:

"The crop of 1912 was about 12,000 cars; in 1913, 8,000 cars; and in 1914 will be about 12,000 cars. It is impossible to get an average price for the reason that no such figures have been compiled. Different marketing concerns in different places, different varieties and different grades and sizes, present such a variation that no one has ever attempted to figure out an average price, and without such a record being kept, the average price could not be compiled. In 1912 the average price was somewhat under \$1.00; in 1913 it was considerably over \$1.00 for all varieties, grades and sizes. It is a little early (December 5, 1914) to make a guess on this year's prices, but I assume the grower of good varieties in good districts will probably receive somewhere around \$1.00, although it may be somewhat less. The acreage in the Northwest has been estimated at about 500,000 acres in apples. About 20 per cent of this is estimated to be in full bearing last year. Probably 10 per cent to 20 per cent of the balance would come into bearing annually. A prominent official in the Department of Horticulture in Washington, D. C., informed me when I was there in 1910, that only between 10 and 20 per cent of the fruit trees planted in the United States ever made commercial orchards. Old nurserymen tell me the same. Therefore the average would be about 15 per cent. Assuming the Northwest would do quite as well as the average, that would be about 30 per cent, which would mean that perhaps 150,000 acres out of 500,000 acres in the Northwest would make commercial orchards. If 20 per cent of the bearing acreage is in bearing, that would be about 100,000 acres, which probably is an exaggeration, and if 12,000 cars were shipped, it would mean that if the whole acreage came into bearing as it did in 1914, the output of the Northwest would be about 50,000 cars. A few years ago various newspaper men and railroad men began to figure on the production of the Northwest, taking the number of acres at so many trees to the acre, producing so much to the acre, and estimated. If I remember correctly, the crop in 1915 would be 50,000 cars and in 1920 150,000 cars. I honestly believe that it will be a long time before the Northwest will exceed 50,000 cars. If we are to have 50,000 cars in 1915, and only 12,000 cars in 1914, we have to go a good deal faster in increasing the production in the future than we have in the past."

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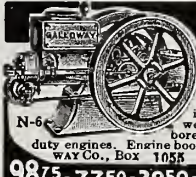


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the United States is well adapted to the crop." What will then be the fate of existing plantings? The question resolves itself into one of competition. Apples must be produced, and the individuals and communities that can produce the required grades of fruit at the least cost will outcompete others. Montana and Colorado districts cannot avail themselves of the Panama Canal and water shipments to the East and South American and European markets as can, for instance, Hood River, Oregon. That is, of course, not the only factor in competition, and it may or may not be the deciding one, but the factor gives Hood River an advantage and it is just such factors as this which will determine the survival of the fittest. To quote Mr. Shepard again: "An elimination process is going on. There are some sections in the Northwest where apples cannot be grown of sufficient quantity and flavor, color, keep and perfection to justify Eastern shipment. Such sections, as you can readily understand, must necessarily pass out. Blight is another factor in wiping out an immense area already set to apple trees. Large tracts set by promotion companies to be sold on 10-acre plan in some instances have already passed out. Others are passing."

The general opinion of men with whom the writer has talked is that the best apple districts will produce the future apples and that the small grower in the less favored districts will have to be content to supply his own table. New England corn cannot compete with Iowa corn because it cannot be raised as well in New England—the soil and climate are an insurmountable handicap to New England. The writer is convinced that the same thing will evolve out of the heavy future crop and he sees no reason why the best farmers of the New York growers, the Virginia growers, and even of the North Pacific growers, may not continue to operate their orchards at a normal profit over a period of years, while the cycle juggernaut is forcing out all the absurd recent, steep-hillside, poor-soil and out-of-the-way plantings; forced out, let us say, thousands of acres of poorly favored Missouri.

(To be continued)

Famous Scientist to Speak

Bacterial diseases of California fruit proper cultivation and the treatment of soils; causes that hinder potato production, and the remedy for blights and fruit pests, will be a few of the subjects which will come up for consideration at the Exposition convention of the California State Fruit Growers' Association at Stanford University during the last week in July. Many famous agricultural scientists and experts have accepted invitations to read papers and make speeches on these and other topics of great interest to the thousands of orchardists throughout the state. A feature of the sessions will be a symposium on the outlook of the various fruits grown in California, by men who have made a notable success of the

culture. Pear blight, which is laying a heavy hand on the orchardists, will be treated from the bacteriological point of view by scientists who have made a special study of the subject.

Mrs. Lillian D. Clark, of Berkeley, will have charge of the women's sessions, where many problems in home economics will be considered. Matters of special interest to the various county horticultural commissioners and inspectors will occupy the attention of the delegates Monday and Tuesday, July 26 and 27, while the following day will be devoted to a tour of the famous Santa Clara Valley. Saturday, the convention will adjourn and go to the Panama-Pacific International Exposition at San Francisco, to view the great exhibits in the Palace of Horticulture and to take part in the Horticultural Day ceremonies on the Exposition grounds. In the evening of that day Dr. John Coulter, of Chicago University, will deliver an address. Many hundreds of the leading orchardists and farmers of the state have already notified the convention arrangements committee of their intention to be present. All, 825 conventions will meet in connection with the Exposition by the Golden Gate, and of these, 74 are devoted to farm and rural interests. Visitors are welcome.

Live Irrigation Data

In a booklet recently issued by Fairbanks, Morse & Co., of Chicago, irrigation projects in many parts of the United States are attractively illustrated and briefly described. The plants shown therein are supplying water to land growing crops of beets, wheat, alfalfa, corn and potatoes, and the land irrigated is located not only in the semi-arid tracts of the West, but in the Southern and Eastern states. One of the larger tracts mentioned is located in the beet raising district of Southern Kansas. To the land irrigated a 60-h.p. Fairbanks-Morse oil engine belted to a centrifugal pump delivers about four million gallons of water per day. The result of this water resulted in the yield of nineteen tons of sugar beets to the acre. A very good idea, both of the machinery used and the character of the soil irrigated, may be gained from the text and illustrations in this publication, which is entitled "Practical Irrigation by Pumping." It will be supplied by the publishers free of charge to those interested.

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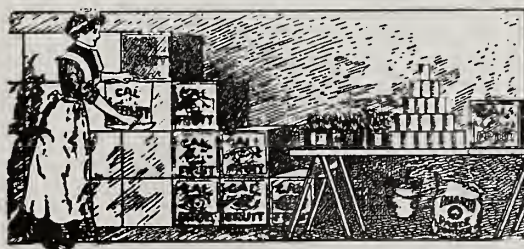
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harrow. The Caterpillar land leveler and Caterpillar sagebrush plow receive gold medals. Every type of machine or implement entered by the company thus received conspicuous recognition. The Holt exhibit is one of the largest in the Palace of Agriculture, and with the outdoor display it occupies a larger area than any other single agricultural exhibit. Intelligent care in planning the display and a liberal expenditure in carrying out the details have made it a distinct feature of the Exposition. The rules of award recognize not only the exhibit itself, but the company behind the product, the world-wide distribution of the product itself, its civilizing influence, and other factors that bear a deep significance.

Fire at the Bean Plant

The Bean Spray Pump Company, San Jose, California, on the morning of May 29th had a very serious fire, causing \$50,000 damage. The offices, drafting room and a portion of the machine shop were burned. The company will not be delayed, however, in the filling of orders, as their branch at Lansing, Michigan, will be able to take care of their Northwest and Central West business, and their branch at Fresno, California, will supply Pacific Coast points until the San Jose plant is in working shape again. A large part of the machine shop was undamaged and was running the afternoon of the fire. A temporary office was established while the fire was still burning, and the officers of the company state that though they work under considerable inconvenience for some time, business will be continued as usual. The loss was covered by insurance, and plans are already under way for the construction of a larger building and better equipment in place of that which was destroyed. This concern is well known as manufacturers of spraying outfits, centrifugal pumps and gas engines, and it is interesting to know that they will not be seriously set back by the fire.

West Wenatchee elected the following men to serve in their unit of the Fruit Growers' League as directors: Ed Dennis, E. G. Pogue, Carl Jones, W. E. Reeves, and C. F. Kiser. T. F. Roddy was elected delegate to the central body. The League decided not to engage in any form of commercial business this year but to confine its efforts towards the establishing of a uniform pack and to assist in the general supervision of selling agencies. The League has already 300,000 boxes of fruit signed up and a strenuous campaign is being conducted for additional tonnage.

Mr. C. T. Haskell has resigned as Chairman of the Wenatchee North-Central Washington Fruit Growers' League and Mr. J. B. Adams of Leavenworth has been elected Chairman of the Board of Control in his place. Mr. Adams has a reputation for being a wonderful executive and a splendid organizer, one of the strong men of the Wenatchee district with an im-

mense acquaintance and a large circle of friends.

The unit membership of fee to fruit growers will be \$1. Salaries for all officers in the League and in the League and in the Board of Control will be \$5 per day and expenses when actually engaged in the business of the League.

An Engine on the Farm.

Gasoline engines are being put to many interesting uses, being important factors in creating efficiency and economy in farm management. Gasoline engines are taking the place of horses in many ways, being used for power tractors and serving additional purposes such as furnishing power for driving feed cutters, pumping water, running spray out-fits, etc. They are serving a new purpose with the fruit-growers in furnishing power for running the apple-grading machines and sizers, which are being used universally by orchardists. By the use of sizers and graders the grower has found that he can pack his crop more efficiently, more economically, more uniformly and better.

One of the most interesting and instructive stories on the State of Utah, written from an agricultural, horticultural and livestock standpoint, entitled "The Lands of Utah," has just been issued by the passenger department of the Denver & Rio Grande Railroad. The subject matter prepared by Dr. E. G. Peterson, director of agricultural extension of the Utah State Agricultural College, vouchsafes its reliability and authenticity. The illustrations, of which there are many, have been chosen with care and cannot but impress the reader of the great agricultural resources of the state. Under the caption "Gleaned Facts New Settlers Should Know" are given the answers to questions the seeker of a home wants first to know about a prospective location. The Carey Act projects in Utah are described and classified.

The Panama-Pacific Exposition.—All fruit growers who can spare the time to attend the Panama Pacific Exposition at San Francisco and also the San Diego Panama Exposition should do so, because these two expositions are the most wonderful that have ever been held anywhere in the United States. As the Pacific Coast is a fruit country, special attention is being given to horticultural exhibits, which will provide the fruit grower an opportunity of making many observations and acquiring a great deal of knowledge which will be of much value to him in his business.

Prof. V. I. Saffro, formerly Assistant Entomologist at the Oregon Agricultural College, now associated with the Kentucky Tobacco Company, has just issued a very interesting booklet, "Nicotine Sulphate Bordeaux Combination."

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WHEN WRITING ADVERTISERS MENTION BETTER FRUIT

Paint No Cure for Fire Blight

Mr. F. E. DeSellem, County Fruit Inspector in Yakima, calls the attention of the fruit growers to be on the lookout for blight during the season. He states that some growers have an idea that paint is a cure for fire blight, but everybody who knows anything about the orchard business knows that no preventative or no cure for blight has ever been discovered. There is only one treatment to get rid of fire blight, that is to cut it out. In the cutting out process extreme care should be taken to cut below the blight infection, and after each cut the knife, pruning shears, or saw, with which the cutting is done, should be disinfected before making another cut.

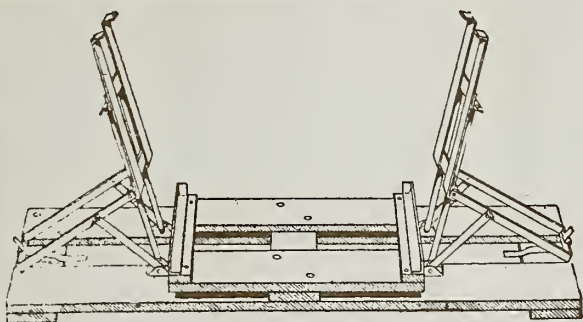
Apple Crop 40,505,000 Barrels

The American Agriculturist, in its final apple crop estimate for the year, gives the commercial apple crop of 1914 for the United States as 40,505,000 barrels. This is considerably below the Government estimate put out in September of 70,000,000 barrels, which many people claimed at the time was entirely too large. The estimate of the crop in the different sections is given as follows:

	Barrels
1914—	
New England	3,620,000
Middle States	17,440,000
Central West	5,375,000
Far West	5,070,000
Southern States	6,000,000
All other	3,000,000
Total	40,505,000
1913—	
New England	2,520,000
Middle States	12,010,000
Central West	5,500,000
Far West	4,170,000
Southern States	3,700,000
All other	3,000,000
Total	30,900,000
1912—	
New England	4,100,000
Middle West	18,400,000
Central West	8,500,000
Far West	6,025,000
Southern States	7,200,000
All other	3,600,000
Total	47,825,000

Mr. W. King, who has charge of the hydraulic department of the Berger & Carter Company of San Francisco, who are Western representatives for the Hydraulic Press Manufacturing Company, of Mount Gilead, Ohio, will be in the Northwest about August 1, with headquarters at Berger & Carter Company's office, 406 Pacific Building, Seattle, Washington. This will offer an opportunity for fruit growers who are figuring on doing some cider and vinegar making this year to pick up some considerable knowledge and information about this work.

The Sebastopol Apple Show will hold its sixth show at Sebastopol, California, August 14. Secretary J. P. Kelly, formerly of Portland, Oregon, reports that this show will be the greatest success of any that has been held. Already many exhibitions have been promised and the fruit is a splendid quality, indicating that the show will be a marvel this year.



The Perfection Lid Press

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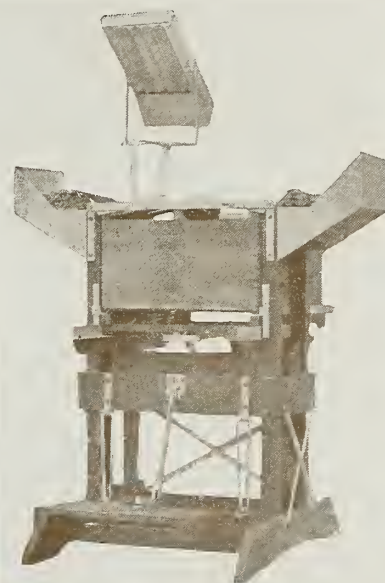
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This catalog contains articles every fruit grower will eventually need.

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Buildings for the Handling or Storage of Fruit should be designed to afford the greatest possible protection against extremes of weather—hot or cold. Packing Houses should be constructed so as to maintain a uniformly cool temperature in Summer and Fall because the fruit as it comes from the orchard contains a great deal of heat. This heat should be reduced to the minimum before the fruit is packed to insure its reaching the consumer in the best possible condition. The lower the temperature of fruit when packed, the better it will stand up under refrigeration and the longer it will keep in and after cold storage.

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and apply it according to the specifications of our specialists who have had fourteen years' experience with these problems. They will recommend the use of LITH, LINOFEELT or FIBROFEELT, whichever is best adapted for your requirements, and will send you plans of construction. Our insulation is used in lining the largest cold storage plants and by the leading refrigerator transit railroads. Nearer home we have furnished plans and insulation to C. A. Congdon and the Fruit Growers' Warehouse Company, both of North Yakima, Washington.

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